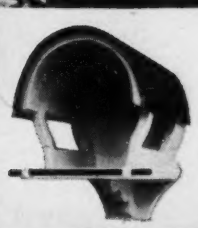
Homecraft AND THE HOME OWNER

JUNE 1954

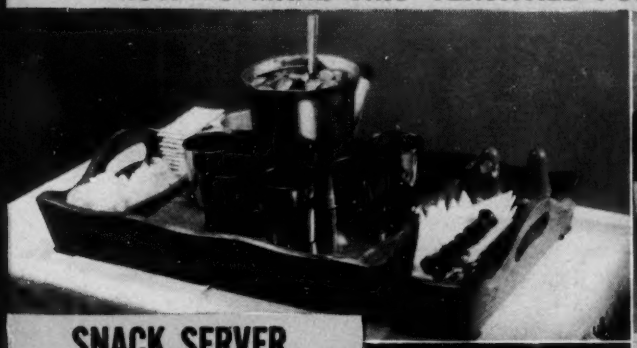
35c 40 CENTS IN CANADA

DO IT YOURSELF

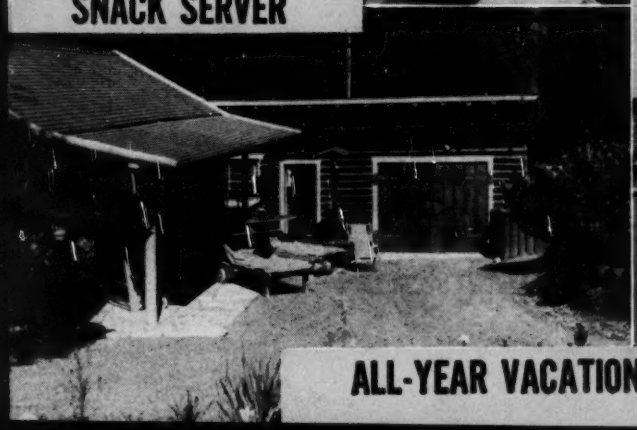
HOW TO MAKE THIS VERSATILE ROOM DIVIDER



FREE FULL SIZE PLAN for making Robin Shelter

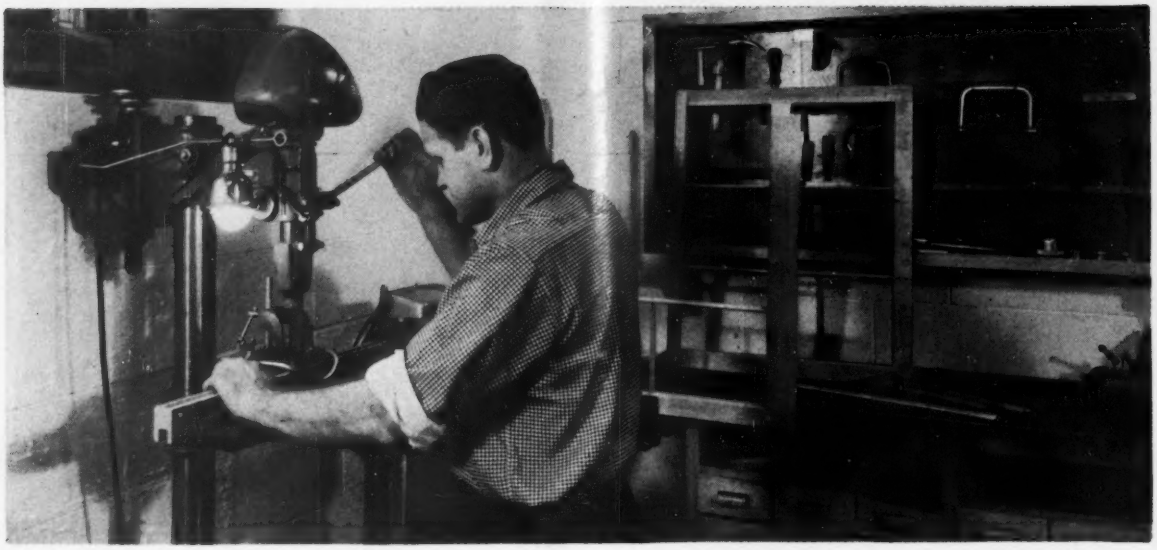


SNACK SERVER



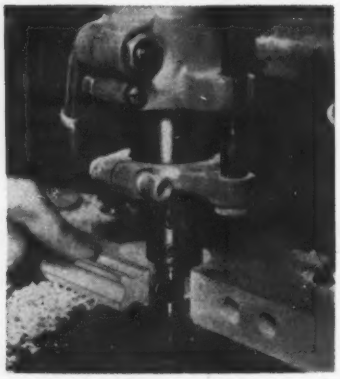
ALL-YEAR VACATION HOME

SERVICE YOUR ELECTRIC DRILL

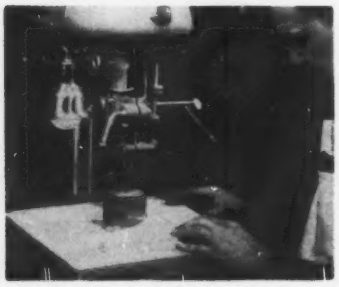


Your Rockwell-built DELTA 14" Drill Press cuts mortises (square holes) quickly and simply with inexpensive Mortising Attachment.

EVER COUNT ALL THE JOBS YOU CAN DO on a Rockwell-built DELTA Drill Press?



Mount a shaper fence and a shaper cutter bit to your DELTA Drill Press, and you're all set to quickly fashion beautiful mouldings.



Sanding inside and outside surfaces—even tightest corners—is easy with sanding drums and sleeves. Router bits also available.

Fast, accurate drilling in wood and steel is only the beginning—there's almost no end to the jobs a Delta 14" Drill Press will handle in your shop!

For instance, you can cut perfect fitting plugs to make bolts and screws invisible. You can mortise square holes for tight, strong furniture joints. You can shape beautifully curved moulded edges. You can do large area routing or fine inlay work. In fact, the more you use a Delta 14" Drill Press, the more things you'll find you *can* do with it.

And the more you'll appreciate its full range of speeds, its easy operation, easy to get at controls, and its sensible safety devices.

This Delta 14" Drill Press is the same rugged, fine-quality tool you'll find speeding production and cutting costs in thousands of manufacturing plants—as well as in the finest home workshops. *There's nothing anywhere near its price to compare with it!* See it at your Delta Dealer's today; he's listed in your Classified phone book under "Tools" or "Machinery."

DELTA DELTA MILWAUKEE

QUALITY POWER TOOLS

ANOTHER PRODUCT BY

Rockwell

ROCKWELL

Delta Power Tool Div., Rockwell Manufacturing Co.
508E North Lexington Avenue, Pittsburgh 8, Pa.

☐ Please send B-53 Catalog, showing 14" Drill Press.
☐ Please send Homecraft Catalog.
☐ Please send 6 issues of Deltagram (mailed bimonthly) $1.00 enclosed.

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Homecraft AND THE HOME OWNER

Volume 24 No. 5

Whole No. 151

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Our 24th Year

Homecraft & The Home Owner is a national publication for the professional, school and home workshop as well as a guide to home repair, maintenance and improvement, published every other month by General Publishing Co., Inc., 154 East Erie St., Chicago 11, Ill., U.S.A. Russell C. Johns, Publisher. Entered as second-class matter July 13, 1945, at the postoffice at Chicago, Ill., under the act of March 3, 1879. Additional entry at Mount Morris, Ill. Printed in U.S.A.

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Need more room in your home for guests or that growing family? Here's an economical do-it-yourself idea. Finish off your attic with new Marlite Plank and Block. This beautiful, prefinished paneling goes up fast with easily applied clips. An exclusive tongue and groove joint conceals all fastening.

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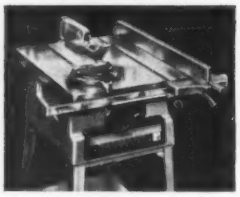

THE Atlas 3021

Here's a NEW 8" tilt/arbor saw built to professional standards for unprecedented accuracy, speed and ease of operation. TEN ALL-NEW FEATURES give performance never before available in an 8" circular saw at or near its low price . . . only $87.50.

Visit your ATLAS dealer today . . . he's the man who knows power tools . . . let him help you get the most out of your home shop. See him for PLAN BOOK No. 2 and free catalog on No. 3021 saw, or use the coupon below.

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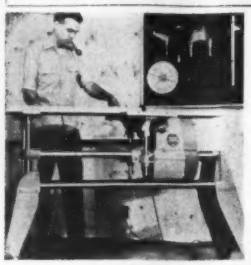
It's New on the Market for the Workshop

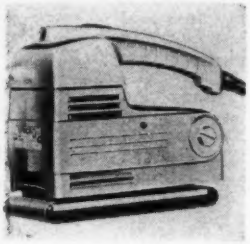


"Modern Design" Shopsmith

The new Shopsmith Mark 5 is delivered fully assembled, ready to plug in. Has a completely enclosed automatic drive. By turning the Speed-Dial, the correct speed for each operation is as easy to set as dialing a telephone. All controls are mounted on the front of the machine. The new Shopsmith complete with motor is priced at $269.50. Magna Engineering Corp., Menlo Park, Calif.

Heavy Duty Sander With Light

The Snycro No. 900 sander utilizes a new "reciprocating" motor. It requires no cams, belts, gears, brushes, etc.; guaranteed against burnout during ownership. Incorporates vibration-absorbing handle. Sands at 14,400 strokes per minute. Has detachable work light. Price with polishing pad, "How to Sand" booklet, three sheets of No. 320, 180, 80 and 50 grit aluminum oxide sandpaper, auxiliary handle, $39.95. Syncro Corp., Oxford, Mich.

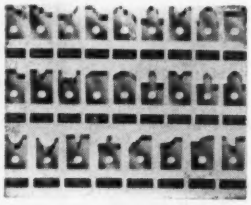


Thickness Planer

Belsaw's new 12¼" x 6" thickness planer offers choice of feed speeds from 14 to 34 ft. per min. The 3-knife round steel cutterhead is ¾" diameter, turns in sealed self-aligning bearings. Provides for adding a 12" top jointer attachment and powered knife grinder. Equipped with 3 hp motor; priced under $500. For literature write Belsaw Machinery Co., Dept. P-104, 317 Westport Road, Kansas City 11, Mo.

26 New Delta Molding Cutter Knives

These 26 new molding cutterheads bring the total number of Delta molding cutter knives to 53. Used singly or in combinations, they can be applied to such projects as picture frames, building trim, panel frames, case work, groove joints, drawers, glue joints, boxes, corner joints, molded corner joints, lock corner joints, reeding and fluting on flat work and table top edges. Delta Power Tool Div., Rockwell Mfg. Co., 400 North Lexington Ave., Pittsburgh 8, Penna.



All Purpose Hacksaw Blade Copes Metals

We've tried this new idea in hacksaw blades, and like it. Its circular contour and its 200 teeth per inch permit cutting in any direction without removing the blade. With adaptors which are provided, it fits any hacksaw. Made of high grade steel. Excellent for cutting wood, plastics, brass, stainless steel and other metals in bar and extruded stock as well as tubing. Does not clog. Price $1.50 for set of three. Dafile Distributing Co., Dept. 38, 1052 College Ave., New York 56, N.Y.

Power Tool Shop Hangs On Wall

A new ¼" electric drill board holding all the basic accessories for do-it-yourselfers is offered by The Black & Decker Mfg. Co., Towson, Maryland. Requires less than 2½ square feet of wall space. Drill board has a 4½" shelf which enables it to stand upright by itself in addition to hanging on the wall. Correct holders for each item on the board keep them in order. A 52-page booklet, "Handy Tips for Handy Men", also comes with each of the new Utility ¼" electric drill boards.

30 YEARS' RESEARCH HAS PERFECTED...

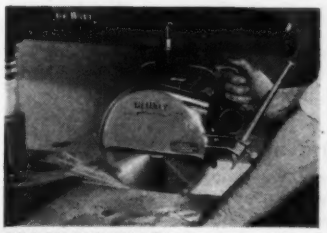
New AMF De Walt "Power Shop" that makes everyone an expert!

Today, AMF De Walt® "Power Shop" is everywhere known and accepted as the *one* really safe, accurate, easy-to-use machine. It's so designed, that working with it, even the inexperienced can *expertly* do everything in home woodworking.

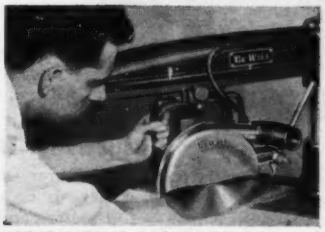
Whether you're modernizing, decorating or repairing your home, AMF De Walt is your best investment. See it demonstrated today. At your De Walt Dealer's or fine hardware and department stores.

$229 delivered (saw blade and custom-built motor included). EASY TERMS.

Insist on these exclusive extra-value advantages!

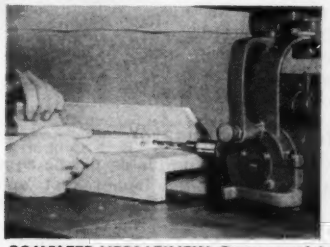


TOP-SIDE CUTTING! No guesswork—no mistakes. You always see the cut because layout marks are visible and easy to follow.

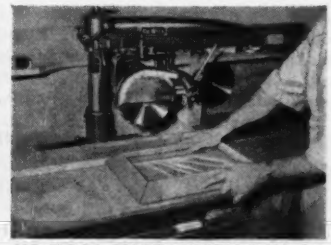


PROFESSIONAL ACCURACY! Calibrated scales for miter, bevel and rip are visible above table. Instantaneous settings!

EASY TO USE! You control ball-bearing travel head in radial arm. Moves smoothly, precisely. All cuts perfect—no spoilage.



COMPLETE VERSATILITY! One powerful direct-drive motor accommodates 12 tools—gives full "3-D" 360° flexibility.



NO FLOOR SPACE NEEDED! Builds into your workbench! When not in use, radial arm swings conveniently out of way.

PLUS BIG CAPACITY and many more extra-value features—all explained in FREE WOODWORKING BOOKLET

De Walt Inc. Lancaster, Pa.

DE WALT

POWER SAWS

IN CANADA:
De Walt Canada Ltd., Guelph, Ontario
Another product of AMF . . . *better by design*

Send this coupon today!

AMF De Walt, Dept. HHO-54-5, Lancaster, Pa.

☐ Please send me free illustrated booklet showing how your Power Shop makes me a woodworking expert, saves money in my home.

☐ Please send me free blueprint "Building A Home Workbench."

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B&D UTILITY Heavy-Duty Adjustable Saw COMPLETE WITH BLADE

$64.50

Look what you can do with this New Black & Decker Saw!

This new B&D Utility 6" Heavy-Duty Saw makes angle cuts, bevel cuts, dadoes — every cut you need to add a beautiful room to your home, or make bookcases, furniture, cabinets, etc. What's more, work goes 10 times faster, without back-breaking labor, thanks to the B&D features pictured below. Try this new saw at your Utility dealer's today—you'll find him listed in phone book Yellow Pages under "Tools-Electric."

Adjustable for every depth & angle cut from 2" at 90° to 1⅝" at 45°.

B&D-built motors take the tough spots without overheating or slowing.

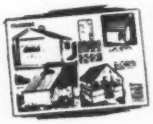
New lever arm safely retracts lower guard for pocket and dado cuts.

B&D saw-grip handle is always at natural sawing angle. Large base plate.

Try it yourself and get a chance to win $1000!

Visit your nearby Utility dealer for a demonstration of this saw. Then fill out a free entry blank, describing the features you like best—and you may win $1000 in Black & Decker's big Saw Contest!

T. M. Reg. Easi-Bild Pattern Co.



Bob Davis says: Send 25c in coin for my "Handy Tips" booklet, full of home repair ideas and information on patterns for projects like this.

Black & Decker PORTABLE ELECTRIC TOOLS — UTILITY TOOLS

Bob Davis, Home Service Dept. H3C
The Black & Decker Mfg. Co., Towson 4, Md.
Please send me "Handy Tips for Handy Men."
I enclose 25c.

Name .....

Address .....

City ..... Zone ..... State .....

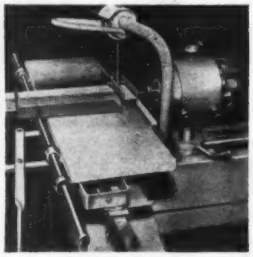
It's New on the Market for the Workshop

De Walt Adds Safety Switch

The Safety-Lock Switch being offered by De Walt for the radial arm saw makes it impossible for the motor to be turned on without a switch-key. This now is standardized as an extra safety feature at no extra cost to the purchaser. To start the machine, the operator inserts the key and turns to to "on", where it automatically is locked so that it cannot vibrate or be accidentally knocked out. De Walt, Inc., (American Machine & Foundry Co.)., Lancaster, Penna.

For Handling Long Stock

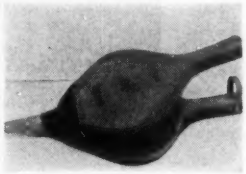
Roll-A-Veyor Material Stand supports and conveys material during machining. Used with circular saw, band saw, jointer, drill press, other machines of any make because of adjustable height from 30" to 42". Wide hardwood roller handles wide and narrow stock. Two Roll-A-Veyors are perfect extra hands in any shop. Price $9.95. Design Associates, 1924 Greendale Avenue, Park Ridge, Illinois.



New Machine: Routiser

With the Routiser it is claimed a novice can produce good wood joints on cabinet front frames, sash screen, furniture frames, etc. Does the work of a mortiser and a tenoner, or a dowel-boring machine. Owners of electric hand routers or of a 1750 rpm motor already have the power unit. For bulletins and prices write to J. D. Wallace & Co., Dept. H.H.O.M., 134 S. California Ave., Chicago 12, Ill.

Bellows for Workshop Use



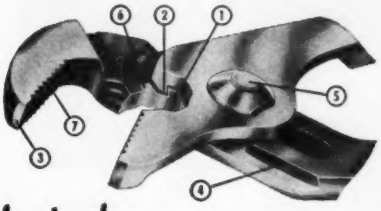
We agree with the manufacturer—every workshop needs a hefty bellows. There is no end of uses for it: blowing sawdust out of motors and other working parts of power tools; cleaning off and around the workbench; clearing out shavings; tidying up drawers without removing tools (same with nail bins); and so on. All that is in addition to its use for the fireplace and outdoor barbecue. Solidly constructed for long hard use. Best cowhide leather; copper spout. 10" diameter; 17" long. Price $6.30. Cincinnati Bellows Works, 4233 Cooper Rd., Cincinnati, O.

Glu-Bird Glue Applicator

Wilhold Glu-Bird is a refillable plastic squeeze bottle with a bird bill-like spout that applies and spreads glue without a drop touching the hands. 4 oz. Jr. for $1.00, 6½ oz. professional size for $1.25. Excellent for dowels, mortices, dovetails, rabbets, ship-laps, small parts, mouldings and assemblies and all production woodworking. For literature and "How to Do" booklets, address: Acorn Adhesives, Inc., 678 Clover St., Los Angeles 311, Calif., or 5733 West Lake St., Chicago 44, Ill.

Carbide-Tipped Drills

Will drill clean, even holes, any size you want, in any kind of masonry material, particularly vitreous tile and hard concrete. Cyclo-Core masonry bits are made in sizes from ¼" to 6". Spiral threads from the cutting edge, the length of the body, automatically remove dust as you drill. These are true centerless core-design bits made in the smaller sizes. Fit all standard electric drills and also in a bit brace. Available at hardware stores and building supply houses. Made by New England Carbide Tool Co.



here's why

1. Interlocking principle prevents slipping under any load. **2.** New type wide base lugs cannot shear. **3.** New nose design for gripping small objects. **4.** Patented design of tension edge eliminates stress concentration at channels. **5.** Interlocking design minimizes stress on joint bolt. **6.** Precision machined interlocking surfaces result in perfect fit, distributing pressure evenly. **7.** "Rite Angle" teeth guarantee maximum bite and minimum wear.

Look for the Channellock line when you're shopping for hand tools. Channellock pliers offer features that you can't get with other makes. And when you buy a Channellock plier, ask to see the full line—you'll find a style and model to do any job better.

CHAN NEL LOCK

THE PLIER DESIGN THAT OBSOLETES ALL OTHERS

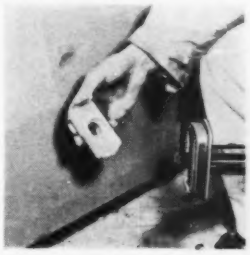
CHAMPION DeARMENT TOOL CO. • MEADVILLE, PA.

It's New on the Market for the Workshop

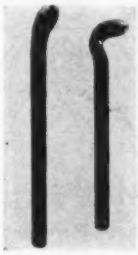
New, Powerful Adhesive

Super-strong adhesive Placco 1000, said to out-perform heavy duty nails, screws, bolts, and clamps in many jobs, comes as a paste and a powder. Pioneer Latex and Chemical Company of Middlesex, N.J., says the product combines all the good points of known adhesives with unprecedented strength. Many surfaces, including wood and masonry, will tear away before Placco 1000 will fail, Pioneer says.

Switch Box Hole Cutter



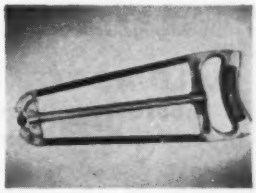
By the use of cutting dies this new tool cuts openings in 3/8", 1/2", 5/8" drywall for single, double or multiple switch boxes. Three steps to operate: 1) Snap male cutter into switch box before sheet is nailed in place. 2) Cut hole with hole saw at approximate center of switch box. 3) Lock male and female cutters together through hole; squeeze handles together. Price with multiple hole cutter and 1 3/8" Misener hole saw, $24.95. Hartmeister, Room 14, 2020 W. Barberry Pl., Denver, Colo.



New Nail Puller

This new tool is handy for removing nails from crates, floors, temporary construction, roofing, cement forms. Useful in building, wrecking and remodelling. The companion tool to this nail puller is identical in size but has a less pronounced curve at the head. A 16" tool with chisel or prying blade on one end also is available for extra heavy work. Price $1.50 each. C. Drew & Co., Kingston, Mass.

Hacksaw Holds Two Blades



Described as "The first basically improved hack saw in tool making history", a hack saw wholly new in design and construction is now being introduced through the jobbing trade by Dreier Brothers, Inc., Chicago. The frame of the "Double Hac-Saw" mounts two 12" blades, one fine for light work and other coarse for heavier work. Each blade cuts a full 5" diameter. A single turnbuckle tightens both blades at the same time. For information, write Dreier Brothers, Inc., 5642 Lake Park Ave., Chicago 37, Ill.

8-Piece Bit Set

Snell Division of Parker Manufacturing Co., Worcester, Mass., has introduced a new "Speed-Bor" 8-piece bit set: seven bits and shanks—to fit any 1/4" electric drill or drill press. Drills holes up to 1". The bits are in seven sizes: 1/4", 3/8", 1/2", 5/8", 3/4", 7/8" and 1". The chrome plated shank is fitted with a slotted collar to hold each of the bits firmly locked in position. Packed in a plastic case with individual clear plastic pockets for each bit. Instruction folder tells purchaser how to make the greatest use of the bits.

TAKING CARE OF THE ROBINS on your place? You ought to make them a new shelter. This issue features a dandy—in full size plan form too! See pages 273, 274, 275. In fact, why not make it "Room and bath?" There's a swell bird bath described on pages 268 and 269.

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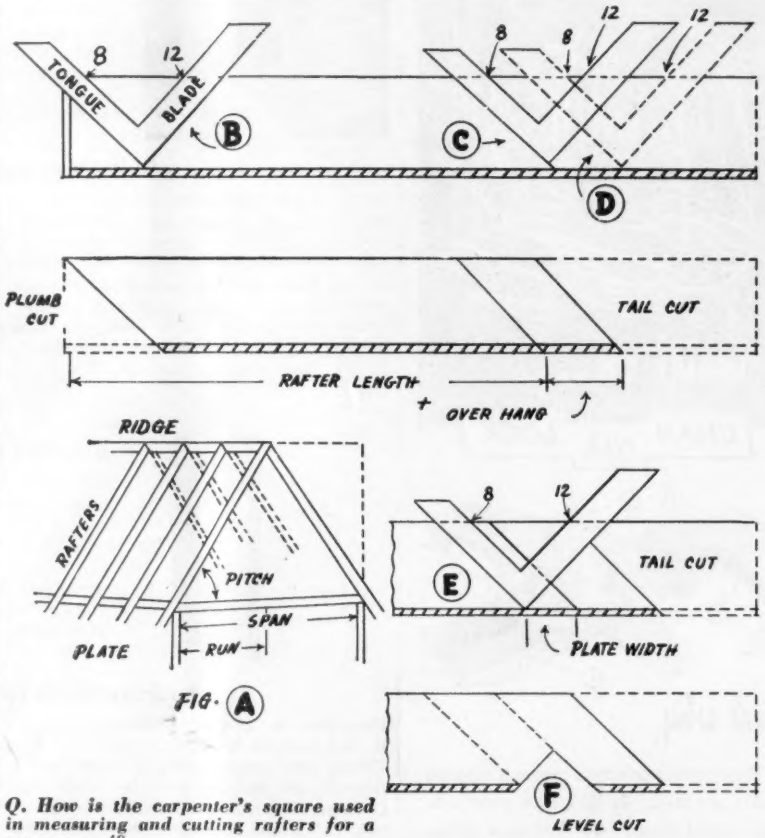
FIX IT YOURSELF

By Percy S. Graffam

Associate editor

For FUN PROFIT ECONOMY

You are invited to send your inquiries on home repair problems—Interior and exterior, as well as on items used in the home. They may concern construction, heating, wiring, plumbing, painting etc., and may involve wood, metal, leather, plastic, glass or any other material. All inquiries will be answered as promptly as possible, either in this column or by personal letter. Be sure to enclose addressed stamped envelope when writing to Mr. Graffam.



Q. How is the carpenter's square used in measuring and cutting rafters for a garage roof?

A. To frame a garage or any gable roof you must determine the span distance, the distance between the 2 walls, then the rise, the distance up from the plate to the top of the ridge. Pitch should be at the best angle suitable for the load the roof has to carry. 2 of the most common are ¼ and ⅓ pitch.

If you use ⅓ pitch, for example: The vertical height from the plate on which the rafters will rest, to the ridge, equals ⅓ of the span width of the building. A ¼ pitch would equal ¼ of the span width. This is where your steel square is used to determine the overall length of the rafters. For a ⅓ pitch measure between 8 on the tongue and 12 on the blade of your steel square (for a ¼ pitch, 6 & 12). The distance is 14-5/12" which represents a line length of a rafter with a run of 1' and an 8" rise (⅓ pitch).

If the run (½ the span distance) is 10' multiply 14-5/12 x 10 which gives you 144-2/12" or 12' 2". To this add any overhang you may want. If the overhang is 20" the total rafter length would be 13' 10", thus allowing you to use 14' timber.

To use the steel square to cut the angles, place the square at the end of the timber (Fig. B) with the tongue at 8 and the blade at 12 along the edge as shown. Mark the timber. This is the plumb cut. Now move the square to 12' 2" on the top of the timber to "C". Place as before—tongue at 8, blade at 12—and mark it. Move square distance of overhang, 20" (D) and mark it for the tail cut of the rafter.

The level cut (F), the width of the seat, is next marked. Using the square as before, place the square and mark as shown in Fig. E. You now can cut the timber according to your markings. Cut 2 timbers and try for size. Make any minor changes and keep one rafter for a pattern, cutting all others from this pattern. You may space rafters 12", 16", 20" or 24", depending on whether 2 x 4's, 2 x 6's or 2 x 8's are used. For a garage I would use 20" spacing and 2 x 6 timbers.

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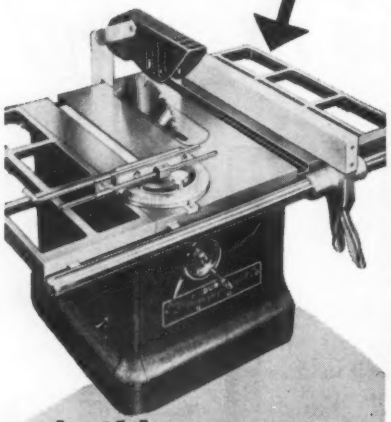

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Q. What kind of finish should I use on knotty pine to keep it as near the original color as possible?

A. Water clear lacquer, clear flat varnish, or boiled linseed oil are used to obtain a natural finish on knotty pine. Two or three coats of water clear lacquer, with the last coat buffed to a satiny finish with No. 3/0 steel wool; or two coats of clear flat varnish with each coat sanded lightly, should give you a finish that will darken the pine the least. Any finish will darken the wood to some degree.

Q. Recently I had trouble with my garage roof leaking after heavy rains. My garage has a flat roof with asphalt paper covering. I recovered the roof with a heavy asphalt roofing paper, running the strips in the opposite direction from which the first strips were laid. A few weeks later the roof began to leak again and I found the new paper was humped along the length of each run. As I followed the manufacturer's instructions, can you tell me what caused this and how can I remedy it?

A. I believe that if you will cut these bulges open you will find the underside of the paper wet or very damp. This will cause the roof to leak, and very soon the roofing will rot. One way to fix this is to cut the roofing runs in half lengthwise, spread open and allow the roof to dry thoroughly. (See photo.) Spread a generous coat of free flowing asphalt asbestos roof cement all over the exposed part and lay a piece of light weight tar paper the entire length, then cover with liquid asphalt. Lay the paper back in place and renail. You then brush the entire roof with asphalt asbestos roofing cement. It will take twenty gallons to complete a roof 20′ x 20′. However, save the present roof and stop the rot, and any small leak can be stopped with a small can of paste asphalt roofing compound.

Q. Can flat white and white enamel paint be combined to make a paint that will give a semi-gloss finish?

A. By combining a small amount of the white enamel paint with the flat white such a result can be obtained. Mix a small amount of the paint, noting the proportions and testing the results on a separate piece of wood. When you have the mixture just as you wish it, mix the full amount using the same proportions.

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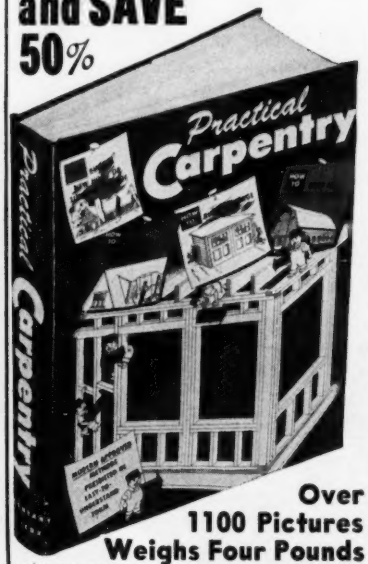

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Q. I am using lacquer in my spray gun and am bothered with air bubbles on the sprayed item. Can you tell me how to avoid this?

A. The air bubbles probably are caused by too much air in the spray gun. Experiment with the set screw that adjusts the air amount until the bubbles no longer appear upon the sprayed surface.

Q. I should like to know what to use to remove the glistened surface of a white (close grain) slip stone so that it will again cut satisfactorily.

A. The flat areas of the stone may be dressed by sprinkling loose abrasive grain on a flat plate which may be glass, iron or the side of a large, used abrasive wheel. Aluminum oxide grain, somewhat coarser than the grit size of the stone, should be used. In the case of a slip stone, a grit size of 200 would be about right. The slip stone should then be rubbed over the plate in a circular or figure 8 motion. This same method also is used to restore flatness to stones which have worn concave.

To remove glaze from irregular or curved surfaces, we can recommend only the same application of grain with a lap formed to mate with the stone. This information is through the courtesy of The Carborundum Company of Niagara Falls, N.Y.

Q. I have a white marble top that is stained; it also needs polishing. I would like to know how to remove the stain and polish it.

A. Try removing the stains with a strong solution of Oakite. If this fails use an abrasive material, "Abrasive Grain," which is a fine powder; when mixed with water and rubbed on the marble with some flat object such as a piece of wood it should remove the stain. Use a circular motion and rub evenly all over the marble. To polish, wash off thoroly, removing all the abrasive powder. Repeat the rubbing process with fine pumice and water. If you wish a high gloss, repeat the second process using powder rouge. Summers & Maca, 3600 S. Oakley, Chicago, Ill., sell these materials at wholesale only, but a letter to them should give you your nearest dealer. Your local glass supply house also may carry them.

Q. How can I finish salad bowls so that they will not injure the food served in them?

A. Best results are obtained by soaking the inside with olive oil and polishing smooth. The outside can be treated with hot linseed oil followed by a hard wax rub.

Q. In what direction should strip flooring be laid?

A. In some cases flooring can be laid crosswise if the room is not a narrow one but usually it is laid in the direction of the longest dimension of the building. All the floors should be laid in the same direction.

Q. What woods are best to use for trim inside the house? I want to use a natural finish.

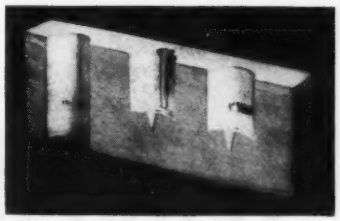
A. Ash, birch, walnut, oak and cherry are good for this purpose.

Greatest wood-boring tools ever developed

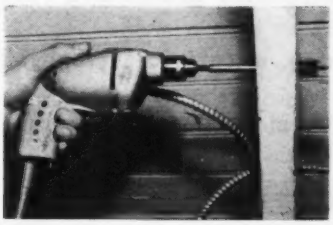
Stay sharp 10 times longer than ordinary bits

Even cut thru screws and wire nails

NEW "DYNO-MITE" HIGH-SPEED POWER BITS



Here's Proof of Amazing Cutting Power. A single "Dyno-Mite" Bit, preparing demonstration blocks like the one above, was still going strong after cutting thru 15 ft. of hard maple, 188 screws, 376 wire nails!



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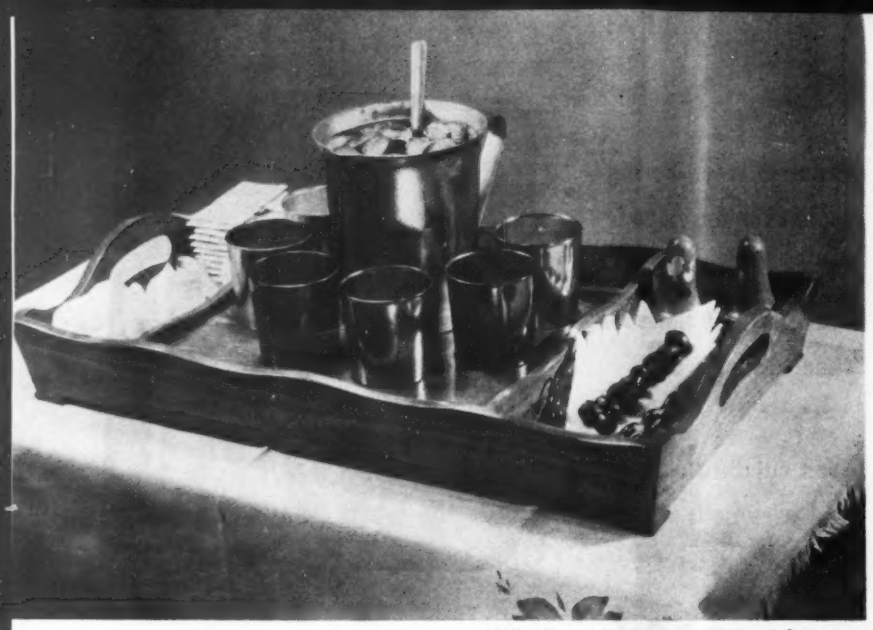


While this serving tray was designed for a spun aluminum beverage set the holding rack is altered easily to accommodate the less expensive glass sets usually obtainable at any "5-and-10." Photo 1.

SNACK AND BEVERAGE SERVER

Refreshing drinks and tasty snacks served in the garden, cafeteria style, make this serving tray an ideal summertime project

By FRANK HEGEMEYER

DESIGNED primarily for use as a beverage and snack server, this easy to make project (Photo 1) serves a dual purpose in that by simply lifting out the glass and pitcher rack (Photo 2) it can be used as a general utility tray. Soft maple, magnolia, or a good grade of white pine are ideal woods to use as they have the texture to resist splitting, sand well and take a good finish. The tedium of sanding will be reduced greatly if the parts are smoothed prior to assembly. In the bradding process all contacting surfaces are coated with an adhesive to reinforce the joints. The stock dimensions given in the material list are slightly oversize to allow for fitting the various parts.

Construction is started with the sides (Part 1) by first sizing them to length with the circular saw miter gauge set at the 80° or 100° graduation. With these same settings you can fashion the dadoes on the ends of these members in a series of overlapping cuts and using the ripping fence to act as a stop to limit the designated width of the dadoes. A ¼ template (see drawing) is used when scribing the wavy cutting line on the stock as pictured being done in Photo 3.

Next in order are the ends (Part 2). These are scribed for cutting to shape with the aid of a half template as prescribed in the drawing. Photo 4 shows the finger slot being made following the technique as prescribed in the drawing. In the beveling process of the ends and sides make certain that opposite bevels are made on the latter members so as to form a pair. In other words, when making these cuts—preferably on a jointer—the dadoes on the ends must face to the left and the fence tilted to the right. The sides and ends then are bradded together to form a frame, followed by adding the plywood bottom (Part 3). When sizing the latter the circular saw blade is tilted 10° and the material reduced gradually until it fits snugly within the frame.

When making the partitions (Parts 4 and 5), you can utilize the same template employed for marking the wavy lines on the sides. Parts 4 are butt-joined to Part 5, to form an H unit which is located centrally in the tray and anchored with brads driven in through the sides.

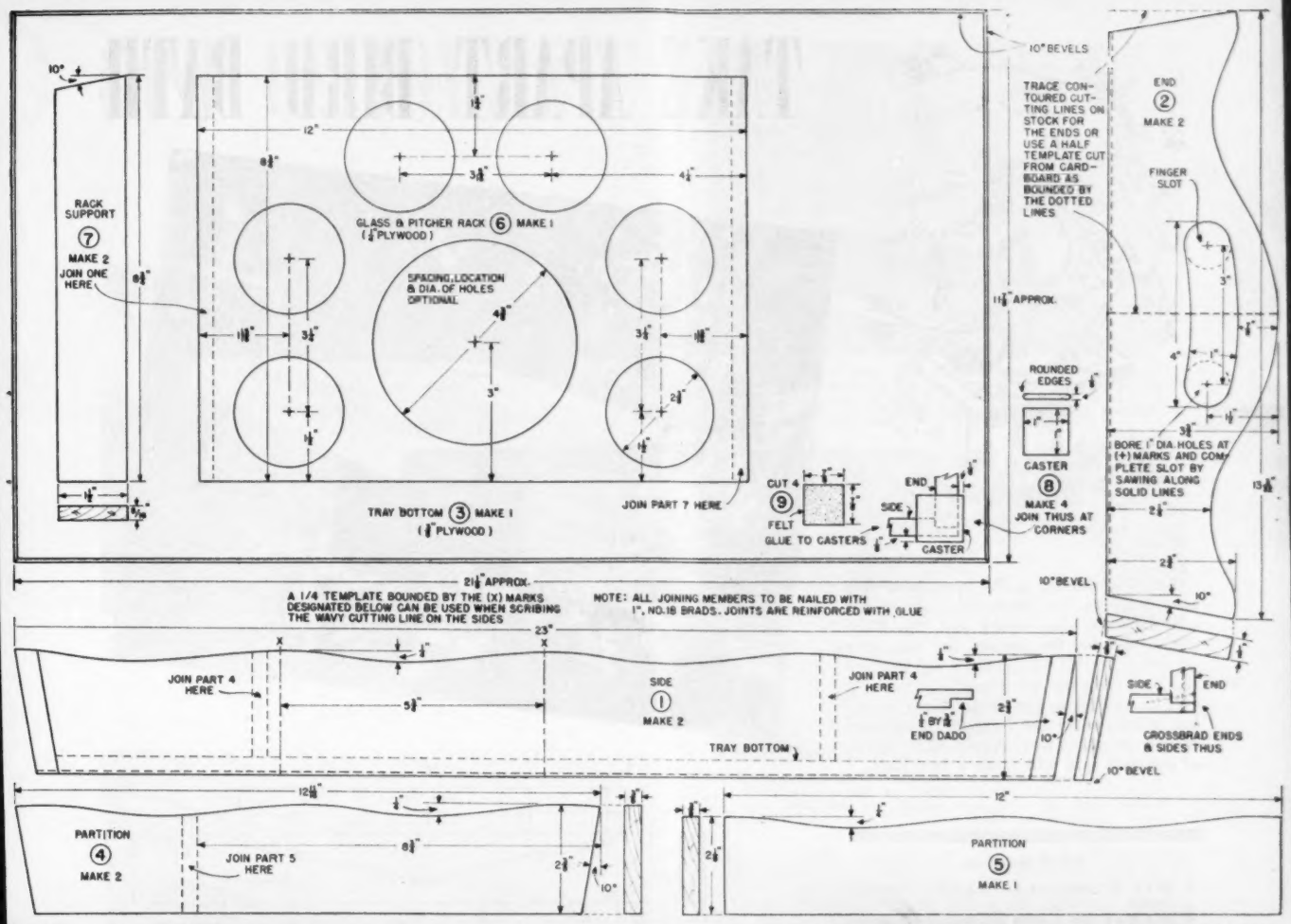
The size and location of the holes in the rack (Part 6) were made to conform with the beverage set used here but are changed easily to accept sets of different proportions. Simply measure the diameter of the vessels 2" from the bottom with outside calipers, and cut paper discs to the same diameter; arrange them on the rack as pictured in Photo 5. Compass pivot points then are made in the rack through the center of the discs and the circles made for the cutouts. After these are made, the rack supports (Part 7) are bradded on.

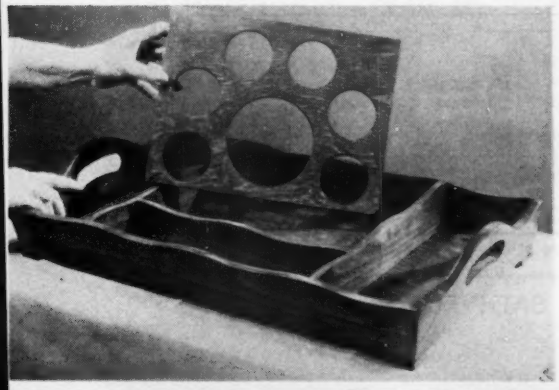
Wood casters (Part 8) are tacked on the corners of the tray and covered with felt squares (Part 9), after the finish has been applied, in order to protect table tops, etc. Preparatory to applying the finish resand the surfaces with a fine grade of paper, such as 00 or 000. An ideal finish for the tray is to tone it with a maple stain and, when dry, apply either a lacquer or varnish finish according to the manufacturer's recommendations. It is suggested each coat be smoothed with a fine grade of steel wool and the final coat polished with a rubbing compound.

BILL OF MATERIALS
SNACK & BEVERAGE SERVER

No. Part	pcs. No.	Description	T	W	L
1	2	Sides	⅜"	3"	23½"
2	2	Ends	½"	4"	13½"
3	1	Bottom (plywood)	⅜"	12"	21½"
4	2	Partitions	⅜"	2⅝"	13"
5	1	Partition	⅜"	2⅜"	12¼"
6	1	Rack (plywood)	¼"	9"	12¼"
7	2	Rack supports	5/16"	1¾"	9"
8	4	Casters (wood)	⅞"	1⅛"	1⅛"
9	4	Caster felt (brown)		1"	1"

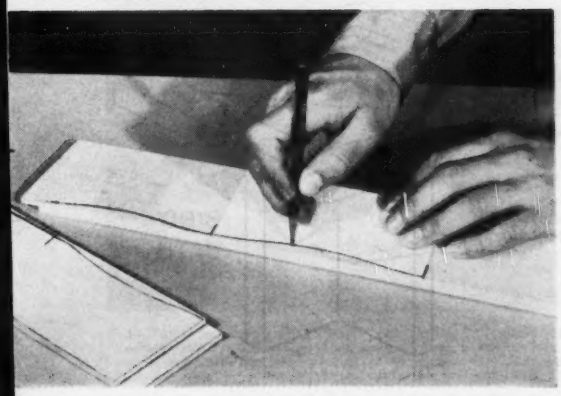
Unless otherwise specified all parts are cut from surfaced solid stock.





The food serving capacity of the tray can be increased by removing the rack. Note the rectangular compartment, center front, which can be used to hold cutlery. Photo 2.

A ¼ template (see drawing) can be used to form a continuous wavy cutting line on the stock for the sides when fashioning them to shape. Note dadoes on the ends of the stock. Photo 3.



Following the prescribed technique given in the drawing for making the finger slots in the ends is a job best done on a scroll saw. Photo 4.

Avoid crowding the discs when positioning them, so that the tumblers do not come in contact with the pitcher after the holes are cut in the rack. A sharp nail or awl is used to spot the compass pivot points in the center of the discs. Photo 5.

TAKE APART BIRD BATH

EASE of storage is the keynote of this cast concrete bird bath. The top comes off, the base slips apart and the three pieces will lay flat against the basement or garage wall if you do not want to leave the bird bath out all winter.

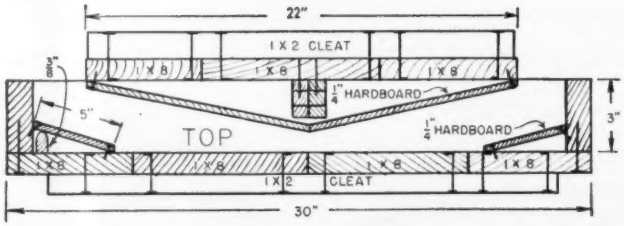
Once the forms are finished any number of bird baths can be made from them to sell or give away. About $2.50 worth of concrete mix will make a bird bath.

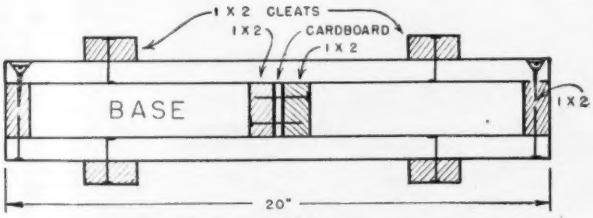
Bill of Materials

- 1 4' x 4' 1/4" tempered hardboard for insides of forms
- 4 1" x 8" x 8' No. 3 white pine for sides of forms
- 1 1" x 3" x 10' No. 3 white pine for edges of top form
- 1 1" x 2" x 12' No. 3 white pine for edges of base form and cleats
- 1 85 lb. sack sand mix cement
- 1 45 lb. sack sand mix cement
- 10 1½" No. 10 wood screws for one side of base form
- 1 lb. 8 penny common nails
- 1 small box ¾" brads
- 1 ⅜" x 10' piece of scrap lumber or molding

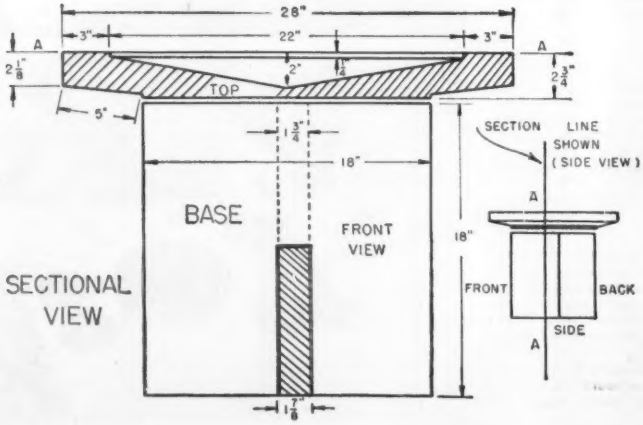
Wire, rod or hardware cloth for reinforcing

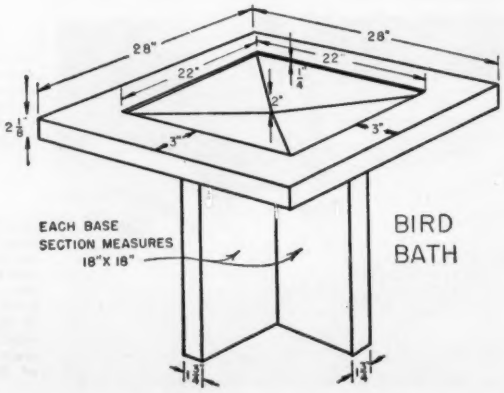
Total cost about $6.00





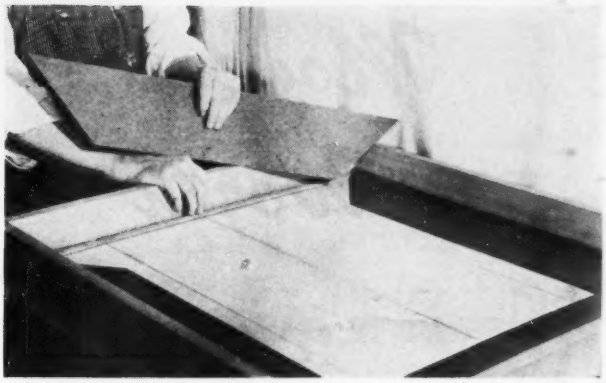
BIRD BATH FORMS SECTIONAL VIEW



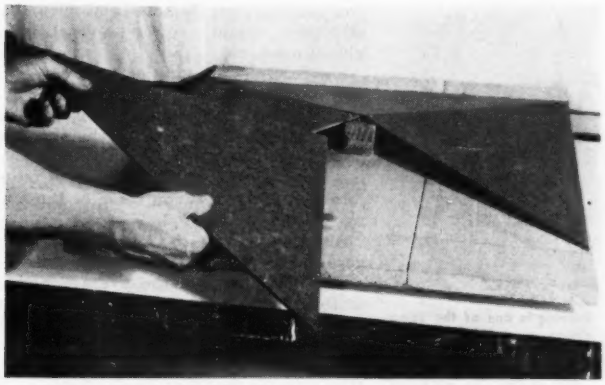


CAST OF CONCRETE

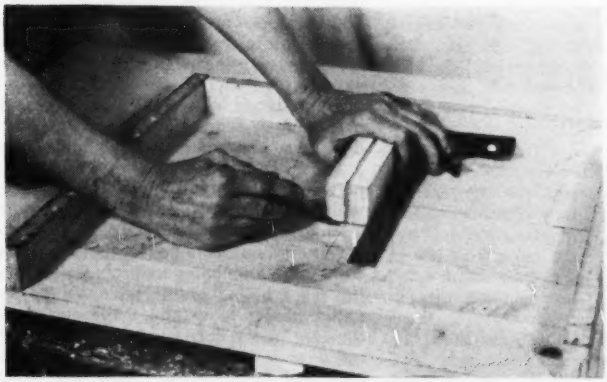
By RICHARD DAY



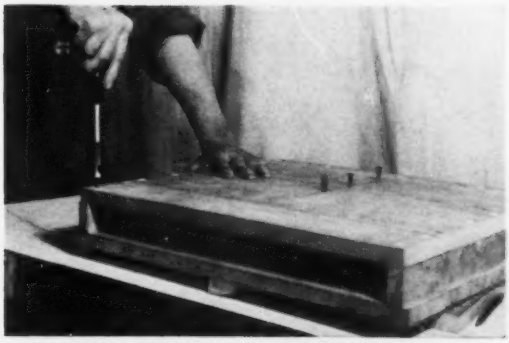
1) Build a box with the bottom 30" square on the outside. 1x3s nailed on make the edges. 5" wide pieces of 1/4" hardboard are mitered at the ends to fit, and placed on 3/8" pieces of wood to make them higher on the outside than on the inside (see sectional drawing).



2) Upper form for bird bath top is 24"x30". Saw a 22"x22" piece of hardboard into four triangles, nailing them with brads at edges to form and at center to 1 3/4" spacing block. The adjoining edges will have to be trimmed slightly with a plane to keep them from gapping at the center.

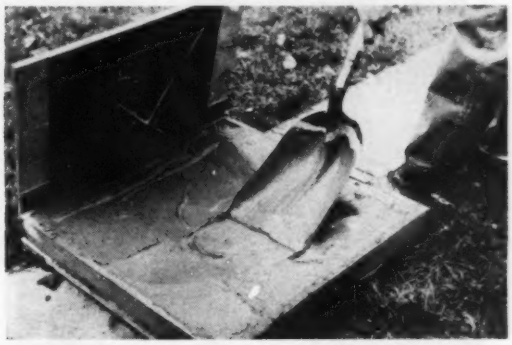


3) Form for base pieces is 19"x20" with 1x2s nailed around both 19" edges and one 20" edge. Two 1x2s 9" long sandwiched over a cardboard shim make slot for base pieces to lap each other after you get them cast. Photo shows centering and squaring.

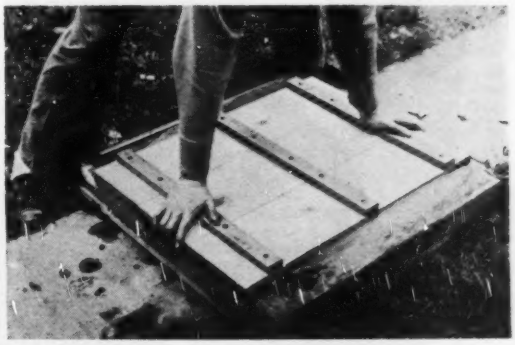


4) One side of base form is mounted with screws so that it can be removed easily for getting castings out. Before forms are ready for use they should be given a coat of oil or grease to aid in parting and to minimize warping.

5) Ready-packaged sand mix cement is easiest to use if the castings are to be reinforced with wire, rods or hardware cloth. One top and one base piece are made in first pouring. The other base piece is poured at a later date.

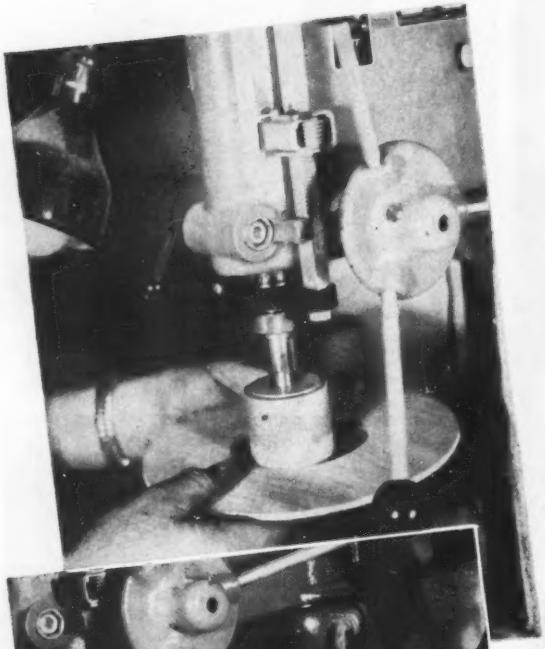


6) Fill the top form at its edges and hollow out the center about the way it will be when the upper part of the form is placed on. The mix should be thick but smooth when the shovel is drawn across it.

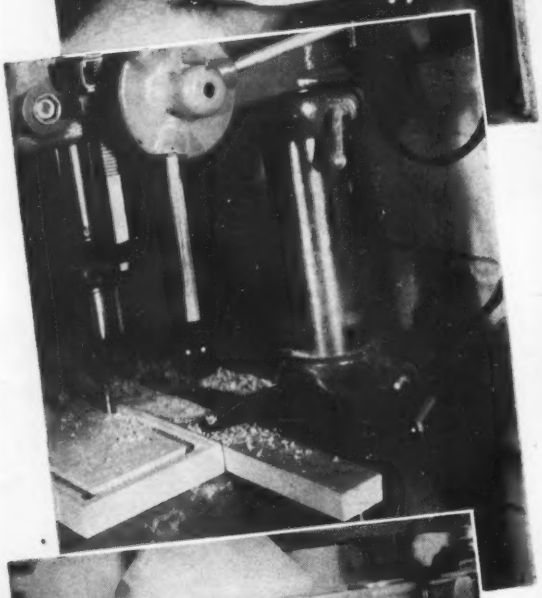


7) Wiggle and push upper part of form into wet cement. Smooth all exposed edges with a trowel or wood float. When cement hardens somewhat (1-2 hours) remove upper section and trowel-finish top of bath. Cure cement several days with dirt or wet newspapers.

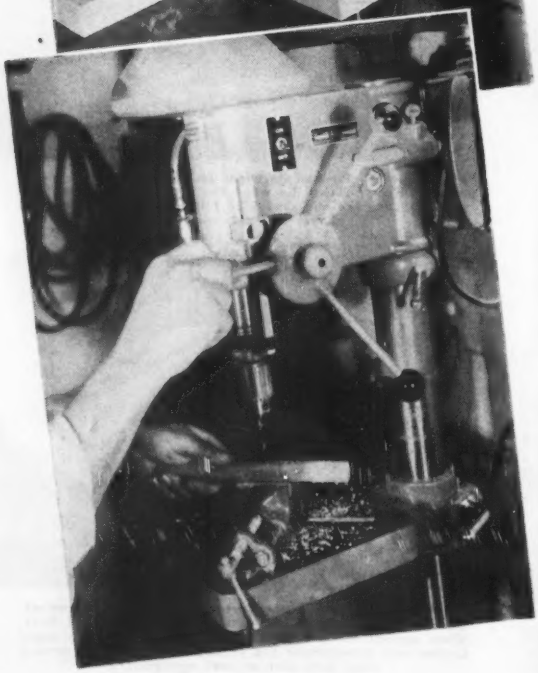
Getting Your Money's Worth OUT



An assortment of small drum sanders makes it possible to do all inside sanding on the drill press.



Routing is one of the operations a drill press was built for. Always use a fence of one sort or another so that the work will not get away from you.



Using the drill vise and a Vee block for centering and drilling round stock.

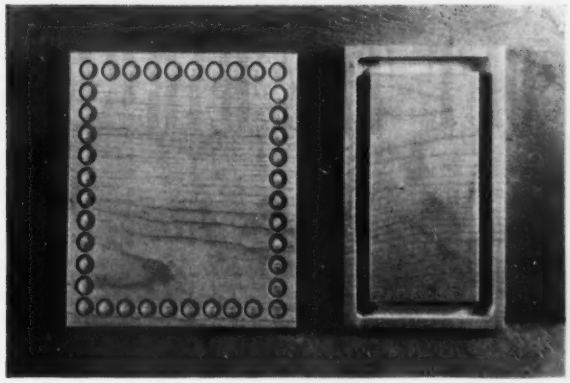
DID you realize that, with few exceptions, your drill press is almost a complete home workshop? Few craftsmen appreciate its true versatility. With a modest assortment of inexpensive attachments you can perform hundreds of jobs that otherwise would require several individual machines.

For example, in addition to plain drilling in both wood and metal, with the expedient of a simple set-up it is possible to make perfect mortises, do shaping, disc and drum sanding, surface planing, routing, dove-tailing, and a number of other jobs. We will show you some of these as we go along.

Since we receive so many inquiries regarding shaping on the drill press, let's cover that first. For the average homecrafter who has only a limited amount of shaping to do, the drill press shaping equipment now available makes it possible to handle the job on the drill press. However, for the shop where shaping is a big factor, we advise purchasing a machine built solely for that purpose.

In addition to the Barron special shaper head shown in several of the accompanying photos, all of the drill press manufacturers also make shaping equipment. Shaping fence attachments with which to operate these shaping tools are available. However, as a means of cutting down the expense of some of the equipment, we have designed and built our own drill press shaper fence. This is shown in the drawings, and again in the photographs.

The fence itself is built up of laminated plywood. The cut-out circle in the center will accommodate any standard cutters. To operate with this attachment, the fence is centered and clamped to the drill press work table—or holes may be drilled and the piece bolted to the table. Allow the cutter blades to extend far enough past the face of the fence to make the cut. If too deep a cut is necessary make a first cut, then advance the cutter and finish the cut with a second pass. Wide trim moldings may be made in a variety of shapes by setting up alternately with



At the right is shown a sample of routing, while a series of decorative rosettes is shown at the left. These were made with a ½" convex router bit.

A shaper cutter set up in horizontal position on a multi-purpose machine. The fence is used for a guide. Notice here that the work is being fed from behind.

OF YOUR DRILL PRESS

By DICK HUTCHINSON

different cutters and running the piece through several times.

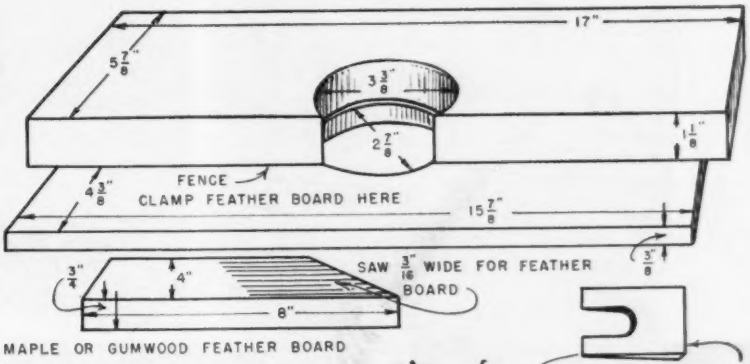
Make a feather board and clamp this to the base of the fence to hold the work tightly against the fence. Remember, always make the cut *against* the revolving cutters. In fact, all operations on the drill press should be against the revolving tool.

The Barron shaper head takes split cutters in most instances, thereby making it possible to work out an assortment of different molding cuts by changing the cutters around to get the desired design. Operations like tongueing and grooving, and even edge planing, may be done with the shaping cutters. Also window sash and all sorts of moldings, including picture frame moldings.

We are illustrating in one of the photographs, a set-up for shaping horizontally on one of the muti-purpose machines. Here the saw table, with fence attached, provides a solid guide for the work. Feed the work in from behind the machine, thus cutting up through the wood, rather than down, to prevent accidents. This machine, as you know, may be raised to a vertical position and operated as a conventional drill press.

When setting up a drill press for shaping, the chuck must be removed. The chuck is fitted on over a taper spindle. Your equipment includes a "U" shaped wedge; drive this wedge in at the top of the chuck by striking lightly with a plastic or wood hammer. The chuck will drop off. (See drawing). The adapters are made to fit the taper spindle. Simply drive them on with the soft hammer.

We show another simple adapter which may be made in your own shop, and used in the chuck for many of your set-ups. This piece is made from a ½" bolt with the head cut off and a hex nut screwed on and up tight against the shoulder. The other nut is used to tighten on any accessory that is to be used. We find this adapter especially useful for setting up with scratch brushes, buffing wheels, grinding wheels, and for special contour sanding wheels. We turn these wheels



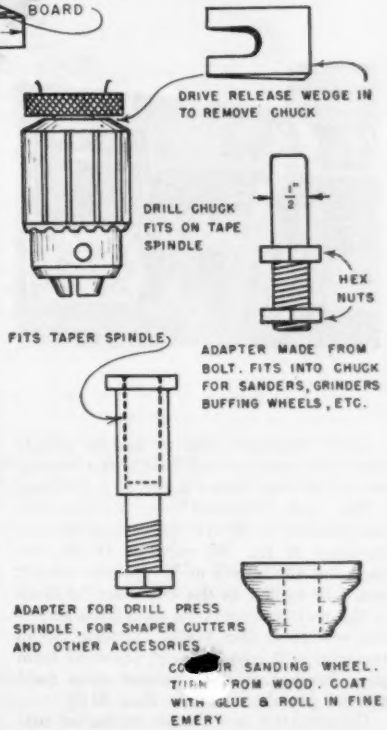
Simple home made fence for shaping on drill press. Make from plywood. Clamp to work table and clamp feather board to fence to hold work against fence.

from wood, on the lathe, to fit the job in hand. The entire surface of each wheel is coated with shellac, then with a liberal coat of liquid glue. Next, roll it in emery powder of the grit desired, and let dry. To remove the grit, soak in warm water and wipe off. The shellac undercoat will prevent the wood from absorbing the glue, also the water when the emery is being removed.

Many times we find the drill press table not large enough to carry on some of the work. To overcome this, cut an auxiliary table of the size required from ¾" plywood. Drill and counterbore to take ⅜" carriage bolts, and bolt tightly to the top of the drill press work table.

Router bits may be fitted directly into the chuck, or adapters may be used. A fence of wood, and stop blocks, always should be clamped to the drill table to hold the work for routing—a straight fence for straight routing, and usually a round end block for curved routing. This holds the work at the point of routing.

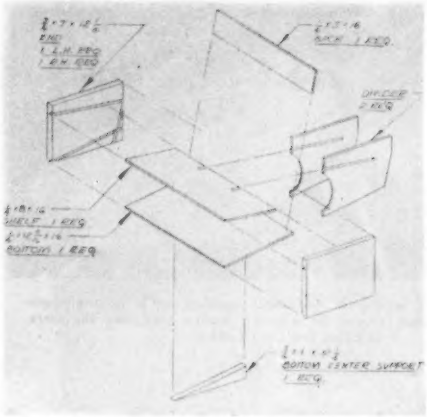
(*Continued on page* 308)

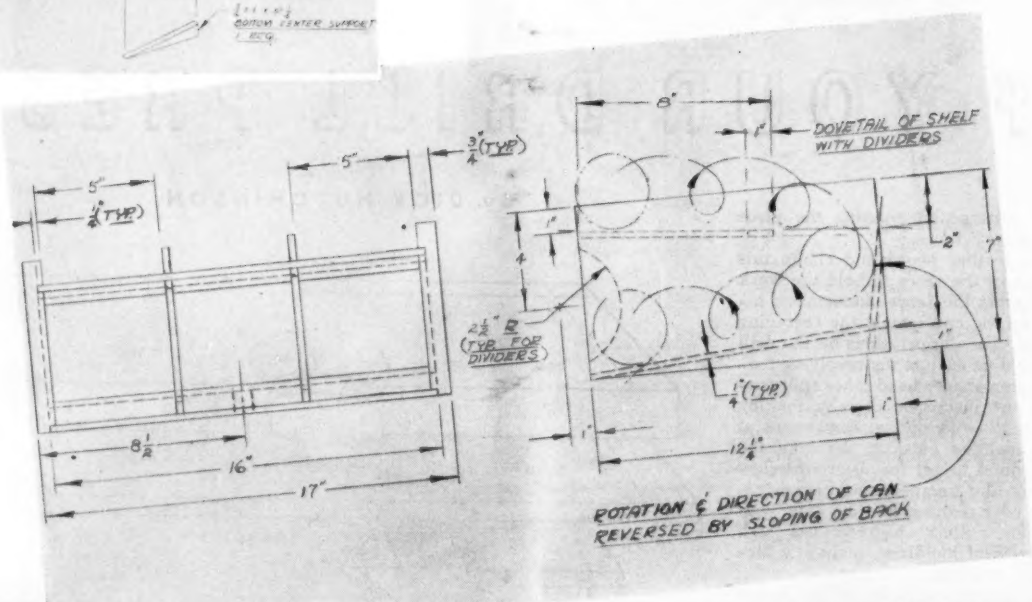


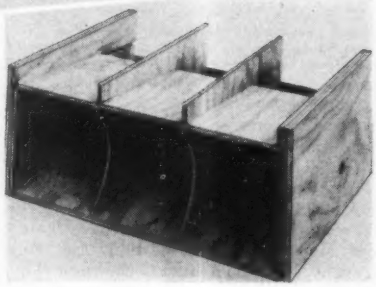
ROLL OUT THE BARREL!

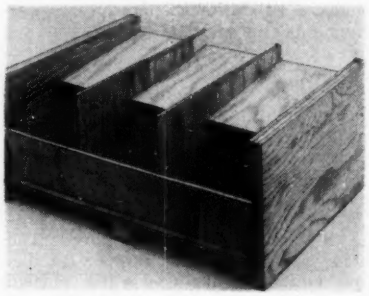
Well, the Cans, Anyway . . .

By EVALYN SLACK GIST









ANY husband able to handle simple tools can build a rack that is the answer to can storage where space is a problem.

The rack discussed here occupies approximately a 13"x17" space and accommodates 24 No. 303 cans or 18 No. 2½ cans. A 13" length of ⅝" quarter round, glued or nailed to the cupboard in front of the rack, prevents the cans from shooting out from the lower runway. Scrap material will cost nothing; plywood from your lumber yard or cabinet shop (odd pieces) should cost less than $1.00.

Construction is a simple matter of cutting lumber to the dimensions shown in the illustration and gluing or nailing them together. Rack ends in the illustration are from ¾" plywood. Balance of rack is from ¼" plywood. Use a router if you have one to make grooves for shelf, bottom and back. Partitions have front curve for ease in removing the cans.

To finish, sand and then brush on two coats of spar varnish. Or paint to match your kitchen color scheme.

By varying the dimensions racks may be built to accommodate any size and number of cans. Cans of the same height, regardless of circumference, may be stored in the same runway.

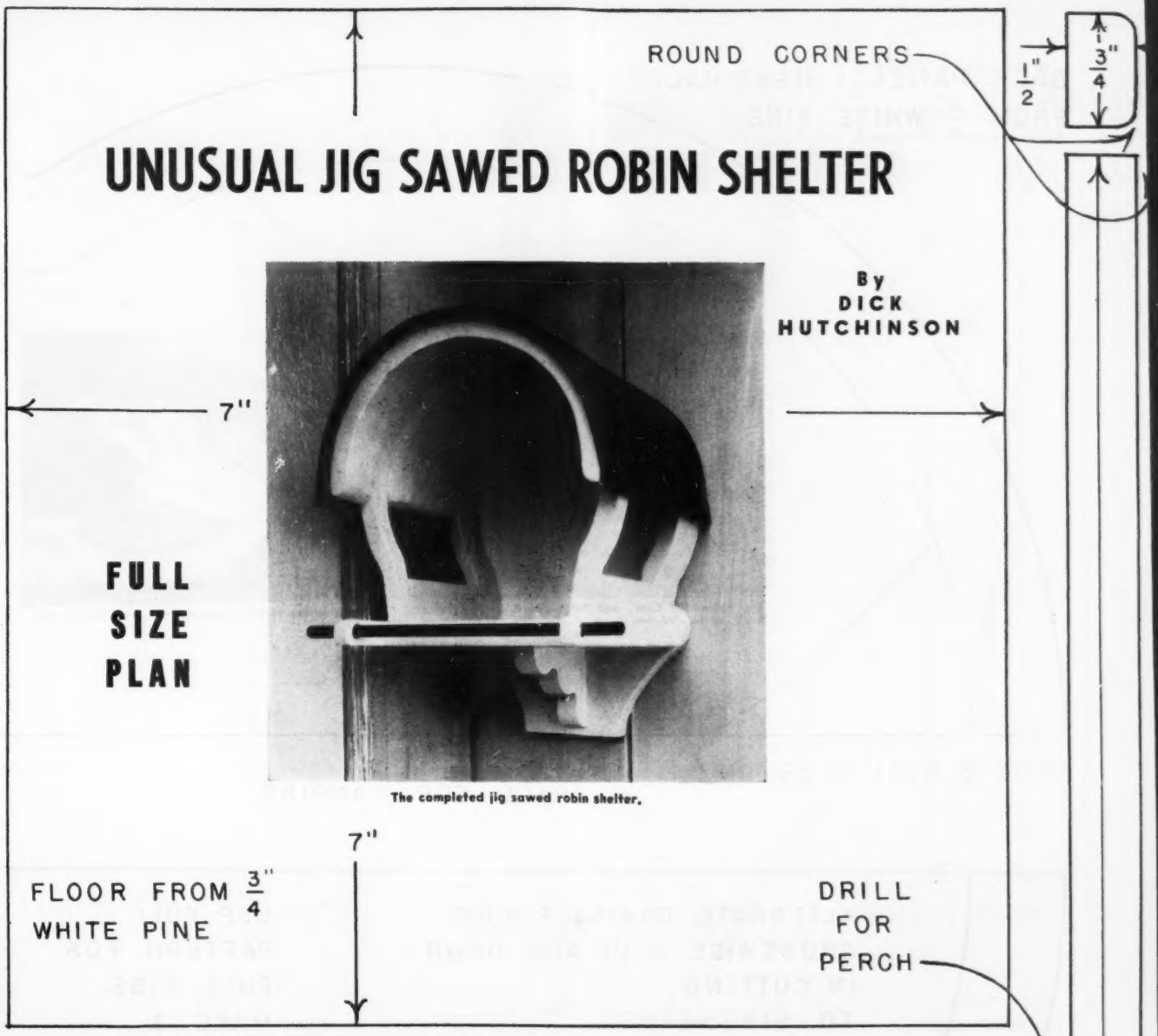
To locate a particular can of food, remove one container from the lower runway. The cans will roll toward the front on the lower runway and toward the back on the upper runway, dropping to the lower runway. By continuing to remove cans from the lower runway and placing them in upper runway, the one you are looking for soon will appear in front of the lower runway.

This is the kind of accessory which makes a kitchen pleasant to work in.

UNUSUAL JIG SAWED ROBIN SHELTER

By
DICK
HUTCHINSON

The completed jig sawed robin shelter.

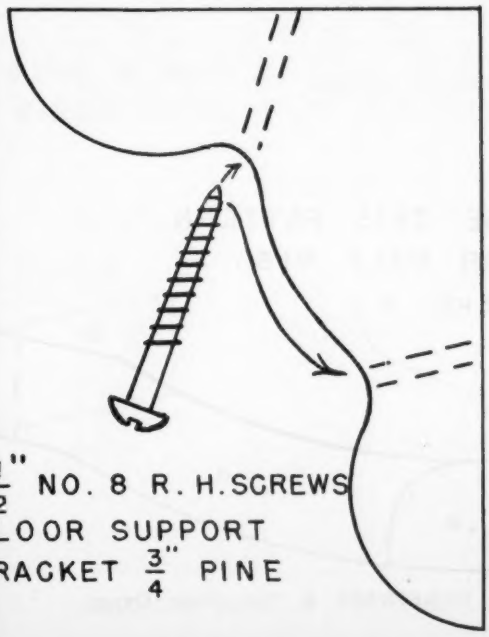


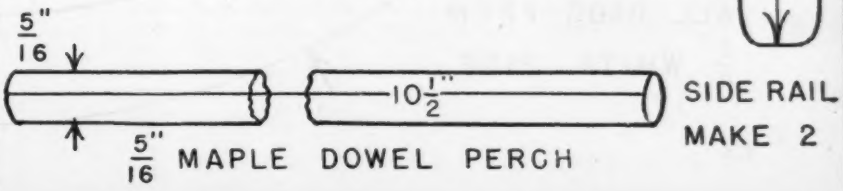
ROBINS will not nest in a closed house, like most other birds do. Also, you will notice that they like to nest near to where people dwell. For example, you probably will find them nesting on a cross beam under a porch roof, or in some similarly protected place near a house. If a shelter is constructed along the lines of the one shown here—with open front and sides—and if it is attached to the side of the house just under the eaves (or to the garage) it will be tenanted in short order. You will be repaid many times for your efforts, by just having these friendly birds around.

All of the parts of this shelter were cut out on the jig saw (a hand coping saw will do as well). The patterns should be laid out on pieces of scrap ¾" white pine. Lay out the three full ribs and the eight half ribs so that the grain of the wood on part of them runs crosswise, and the others up and down. This will make the finished piece stronger. Saw out exactly on the line so they will assemble evenly.

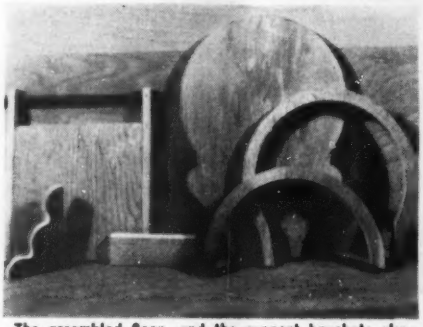
Cut out the back panel; cut and assemble the floor; then drill holes through each of the ribs to take No. 4 finishing nails.

Using a good waterproof glue, coat the back of one of the full ribs. Center it on the back panel and nail it on with No. 4 finishing nails.

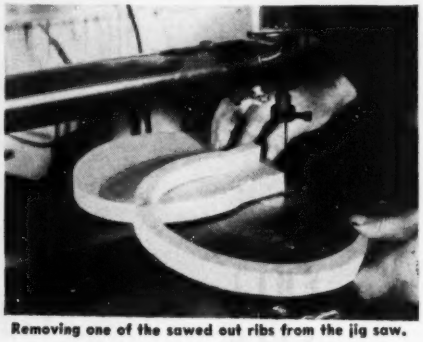




BACK PANEL (RIGHT HALF)
FROM $\frac{3}{4}$" WHITE PINE



The assembled floor, and the support bracket; also back panel and one each of the ribs. Wing board in center.



Removing one of the sawed out ribs from the jig saw.

GLUE & NAIL RIBS ON

DRILL FOR HANGING

ALTERNATE GRAIN OF WOOD
CROSSWISE & UP AND DOWN
IN CUTTING,
TO STRENGTHEN

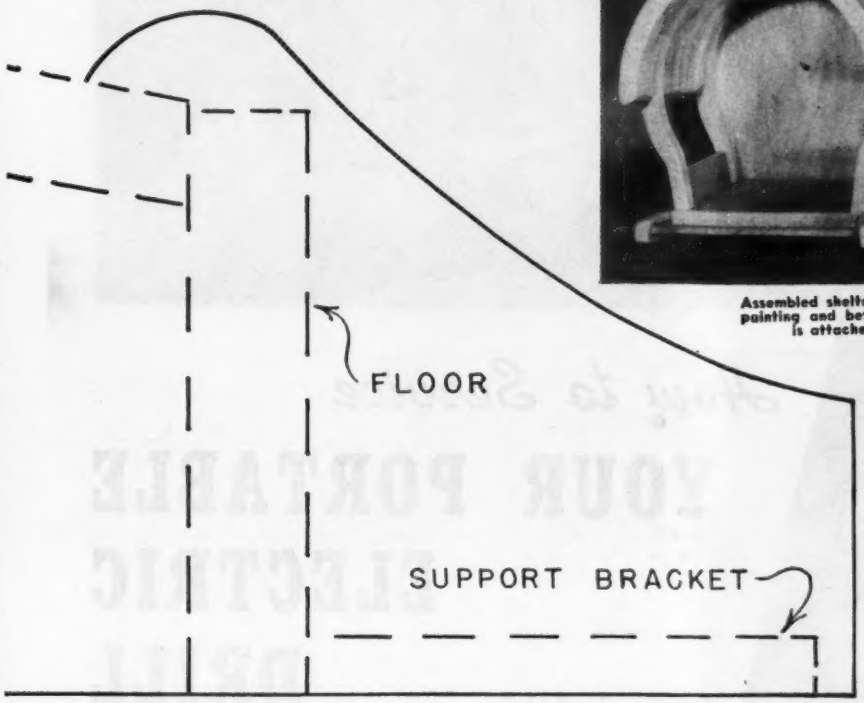
USE FULL
PATTERN FOR
FULL RIBS.
MAKE 3

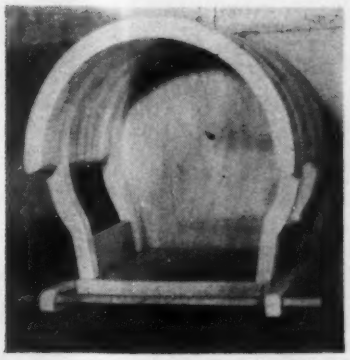
DRILL FOR NO. 4
FINISHING NAILS

USE THIS PATTERN
FOR HALF RIBS.
MAKE 8

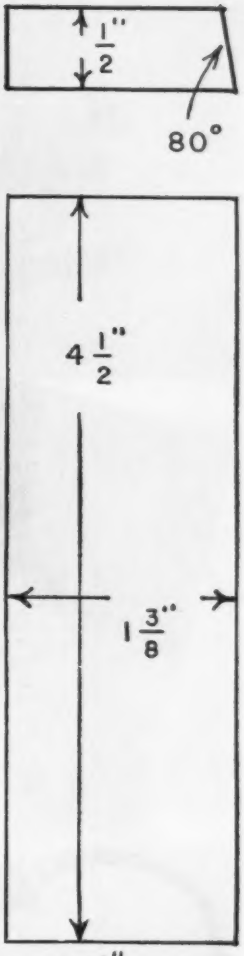
$\frac{5}{8}$"

RIBS
(LEFT HALF)
ALL RIBS FROM
$\frac{3}{4}$" WHITE PINE

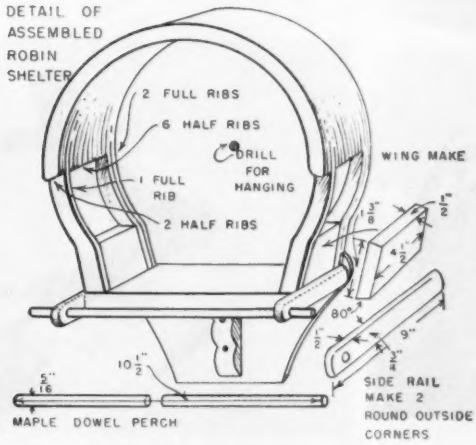




Assembled shelter before painting and before roof is attached.



WING 1/2" PINE
MAKE 2



Repeat with a second full rib. Now apply six of the half ribs in the same manner, being sure that the edges match evenly as each is applied. This done, apply the third full rib—and finally the last two half ribs. Fit in the two wing boards; glue and nail.

Drill holes through the floor board, then glue and nail the assembly in place. Set two 1½" No. 6 F.H. wood screws through the back panel and into the floor. Then, using glue and two 1½" No. 8 R. H. wood screws, attach the floor support. Last operation is to drill a hole through the back panel, as shown, for hanging. Set all nails in, fill holes with Plastic Wood, then sand evenly all over.

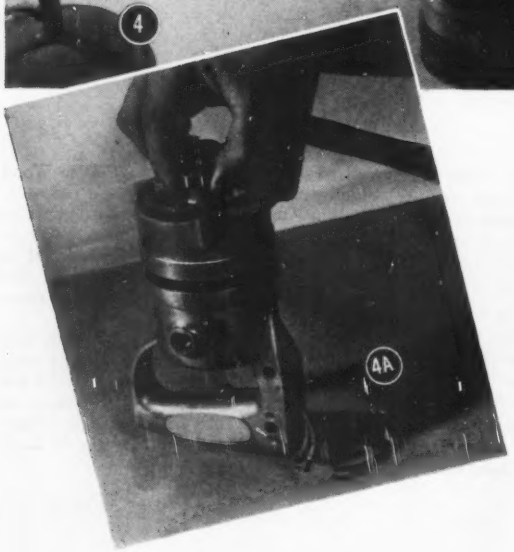
Paint the shelter with two coats of semi-gloss house paint, in a color to match the building on which it will be hung. Paint the dowel porch black. The shelter shown here is painted cream color, with a red roof.

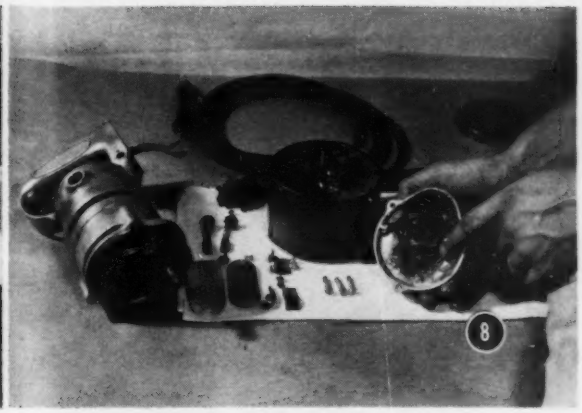
After the paint is thoroughly dry, tack on a strip of slate-surfaced asphalt roofing, allowing a ¼" overhang in front and on each side. Attach to the house, an outbuilding, or the trunk of a tree near the house, with a single 1½" No. 10 R. H. wood screw.

How to Service

YOUR PORTABLE ELECTRIC DRILL

By C. J. FILZ





BY DOING your own servicing to keep your electric drill out of the repair shop for a major overhaul you will save a substantial amount of money, extend its useful life, and have the personal satisfaction of knowing you can do your own repair work.

The following sequence of operations is recommended:

1. A thorough examination of the operating condition is essential prior to disassembly. The chuck arbor bearings should show no sign of radial play when a ¼" x 3" long rod is inserted in the chuck and moved from side to side with finger pressure. Broken wires where the cord enters the handle may be located by pulling on the cord a short distance from the handle while the drill is running. The cord also should be examined for cracked or oil softened insulation. The switch and switch lock should be checked by turning the switch on, letting the drill come up to speed, then turning it off, repeating this operation a number of times. If intermittent operation is noticed when checking the cord and switch, pay particular attention to these items when they are removed from the drill and, if necessary, replace them. Check the drill for signs of overheating and excessive sparking of the brushes.

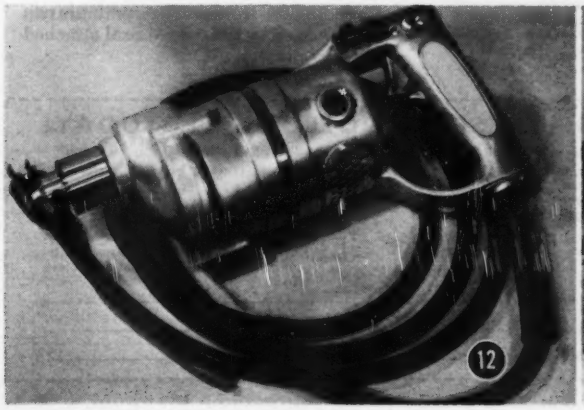
2. Wipe the outside of the drill before you start the disassembly. Remove brush caps and mark brushes and housing with index mark for ease in re-assembly. Also remove cord and switch assembly.

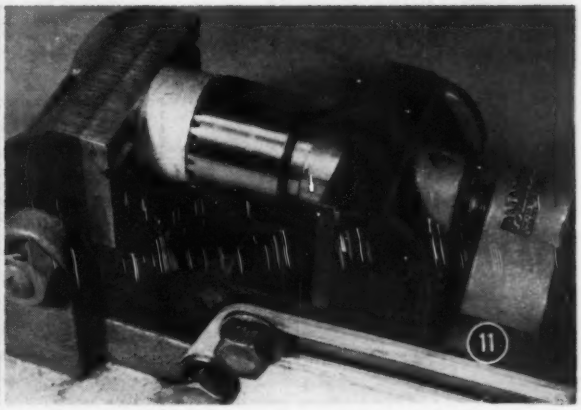
3. With top cover of gear housing removed, hold the drill slightly above bench by the gear housing back plate and remove by tapping downward with a plastic hammer on the end of the armature shaft.

4 & 4A. To remove armature from housing, first expand the aluminum housing around the back bearing by heating with a 150-watt heat lamp for three to five minutes, at a distance of two to four inches. Then hold upper armature bearing and tap downward on housing.

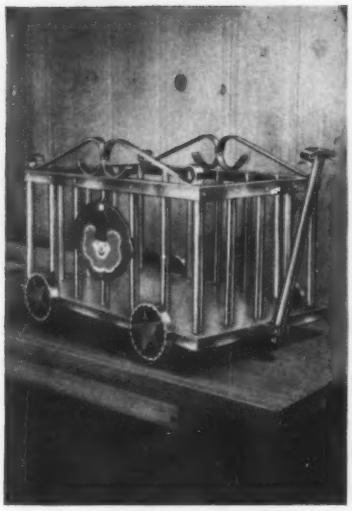
5. The chuck is unscrewed by binding gear against the aluminum housing with a rag or soft wood wedge and tap-

(*Continued on page* 302)





You Can Make Every Project on this page...



CIRCUS WAGON TOY HOPPER teaches tidiness to tots, is a real joy to Mother. And you can make it easily, inexpensively, following Reynolds Plan #108. See coupon.

ALUMINUM SCREENS that never rust or stain are fun to make with Reynolds *Do-It-Yourself* Aluminum . . . much easier than wooden ones. Free instructions. See Coupon.

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Plans available — see coupon

You start with a simple plan. You finish up with beautiful things for your home that would do credit to a professional craftsman. Yes, even if you're a beginner. Here's the secret. Reynolds *Do-It-Yourself* Aluminum is specially made for really astonishing workability. You can bend it, saw it, drill it, plane it, joint it and shape it, using standard woodworking hand or power tools.

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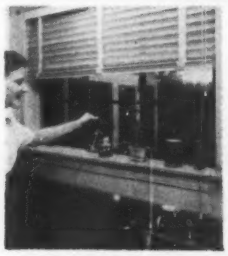

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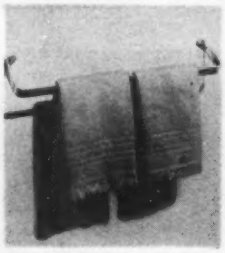

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THE HOME OWNER

Section

ALL AROUND ELECTRICAL TESTER

For the Do-it-yourselfer

By HARRY J. MILLER

MADE from inexpensive parts obtainable from radio supply houses, this low-cost tester will please the home mechanic who desires to test and make minor repairs on his household electrical appliances. Not only will it spot trouble in the myriad devices that make up today's era of electrical living, but it will tell the tale on radio and television tubes without danger of shock to the user.

As is shown, a plastic cigarette case or hairpin container provides the housing for the tester which plugs into any electrical outlet of 115-volts (Fig. 1).

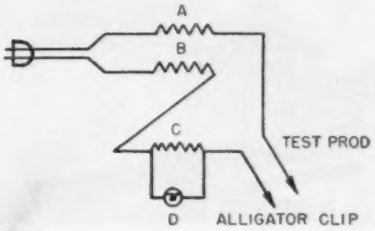
Drill a hole at either end of the case and enlarge it with the tang end of a file so it will accept the line cord and the pair of 8" long test leads (Fig. 2).

Similarly, follow the construction photos using the following components and schematic hook-up drawing:

A is ¼-watt 47,000 ohm resistor
B is ¼-watt 47,000 ohm resistor
C is 1 megohm resistor
D is a GE NE-T2 neon glow lamp

How to test an electrical appliance is explained in Fig. 10. An added valuable feature of this tester is that it will indicate whether a home appliance is safe *before* it has a chance to deal a shock.

For example, in the case of a washing machine or a percolator which the home-



maker is apt to touch with damp hands while the current is on, a defective appliance that is "grounded" may cause a real hazard. To discover whether it is thus defective, turn the appliance on with its plug extracted from its electric outlet. Fasten the alligator clip to one prong of the appliance's plug, then touch the test prod to a clean metal portion of the appliance. The neon tell-tale bulb of the tester must not light! If it glows, no matter how dimly, a destructive "ground" has begun to sprout in the electric device and it may develop into mean proportions.

In electrical parlance, a "ground" denotes that some part of the electrical circuit of the appliance has lost its protective insulation and the fleeting electrons are passing through the appliance's frame. Contact — especially with wet hands—may add another number to the mounting fatalities bemoaned by the National Safety Council.

A good rule to follow would be to make at least semi-annual tests of home appliances with the tester. Once a device indicates a "ground," it ought to be earmarked for early repairs.

In testing radio and television tubes it is important, as shown in Fig. 10, to discover which of the little pins in the base leads to the filament, and apply the alligator clip to one and the test prod to the

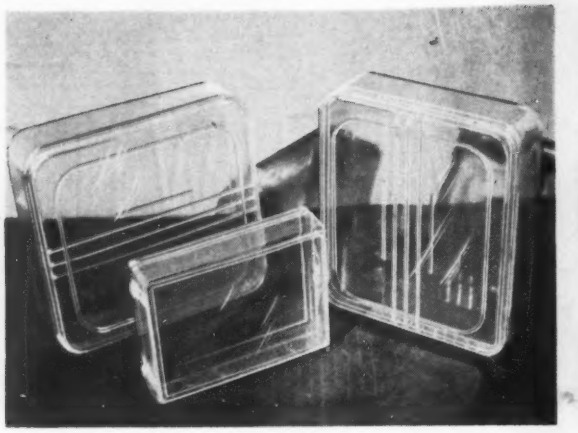


Figure 1
Any plastic box makes the housing for tester. Select a size that provides room for the electrical components to be inserted without crowding.

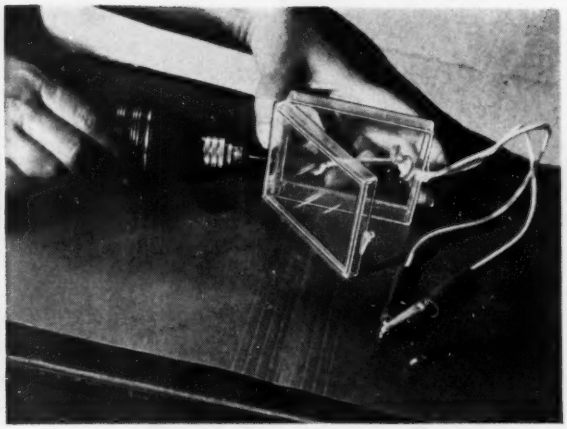


Figure 2
Drill a small pilot hole (a large one may crack the plastic) at each end of the box for the 115-volt power cord and the test leads. An alligator clip is soldered to the end of one test wire and a test prod to the other. Pull the test leads through the hole and tie a knot to relieve strain on the final connections.

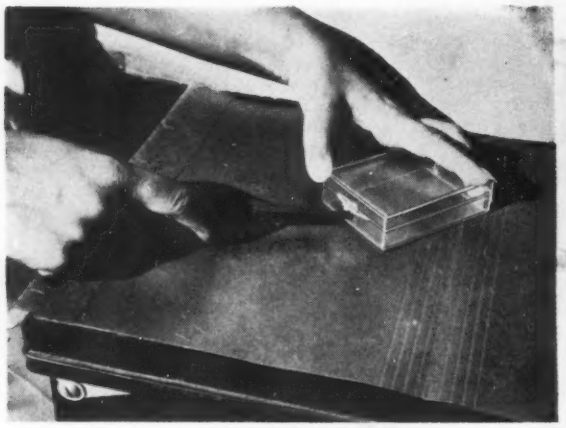


Figure 3
It's wise to start with a small hole and then enlarge it with a file.

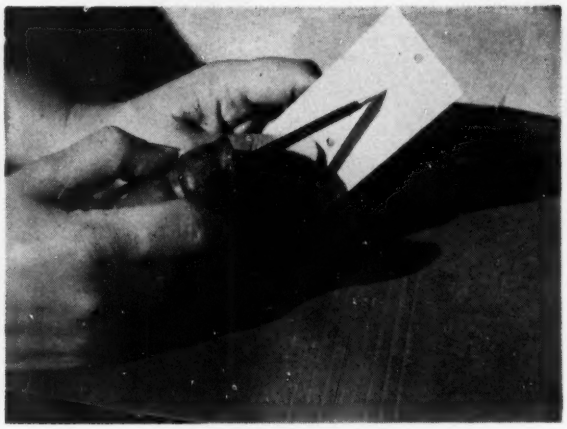


Figure 4
Cut a piece of heavy cardboard long enough to fit the inside of the plastic box snugly, use an icepick to punch mounting holes and make six small holes.

other. If the neon bulb does not glow, the filament of the tube is burned out and the tube is useless. Since a high percentage of radio and video failures are caused by burned-out tubes, it is wise to get familiar with the tube charts. These manuals command a nominal price at radio supply houses.

Modern receiving tubes can be plugged in one way only, and loktals and octals have a "key" in the middle of the base which engages a slot in the tube socket. Never try to force a tube in wrong. Seven- and nine-pin miniature tubes have a wide space between pins at one point, like a missing front tooth. This must be lined up with a similar gap in the socket before trying to return the tube to its socket. And it's a wise plan to mark the socket from which a tube is extracted so it receives back the proper one, especially when more than one tube is removed at a time.

If difficulty is experienced withdrawing a tube, rock it gently while pulling upwards. Always pull the plug of the set out of the electric outlet before commencing operations.

With the set turned on, if a tube feels cold, it is certain to need replacement.

Tubes used in radio and television have a number on them. Hunt up this in the tube manual number and locate the pins which lead to the filament of the suspected faulty tube. The filament is drawn in tube manuals as in this figure:

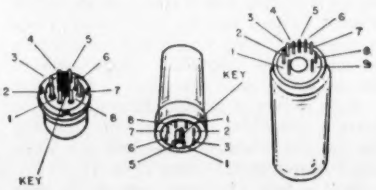
Note to which pins the filament is connected, and touch the alligator clip and test prod to them. If the tell-tale neon bulb does not glow, the tube is done for.

If unable to locate the tube in the tube manual, test the suspected tube by placing the alligator clip on pin 1. Move the test prod to each of the rest of the pins. If the neon bulb still fails to glow, move the 'gator clip to pin 2, then move the test prod around to all the rest of the pins *except* pin 1.

Then move the alligator over to pin 3, while the test prod moves across the rest of the pins *except* 1 *and* 2. This is kept up until the alligator clip is on pin 7, while the test prod is on pin 8. If the bulb hasn't lit by that time, throw the tube away. All of its filaments (it may have more than one) are burned out. Note that pins are numbered from 1 clockwise around the tube, starting at the "key."

In testing picture tubes, pull the plug of the TV set at least an hour before attempting to check, to get rid of an electrostatic charge that sometimes builds up.

With the exception of 7-inch tubes, the condition of television picture tubes, so far as their all-important filament is concerned, is quickly tested by touching either the alligator clip or the test prod to pin marked "1," while the other test lead is touched to pin 12. Again, if the



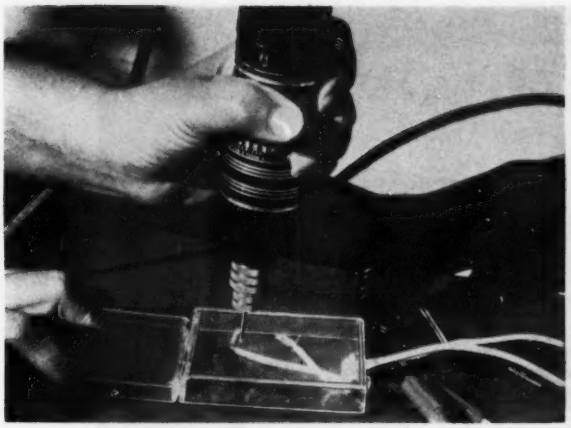


Figure 5

Mark the position of the mounting holes in the cardboard, and drill them in corresponding places in the back of the case.

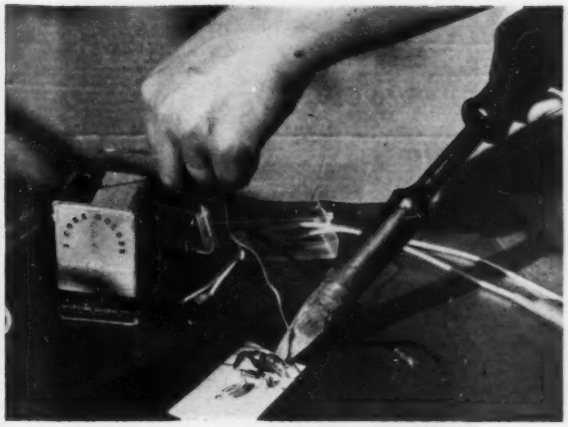


Figure 6

Assemble the resistors and neon bulb by passing their wire ends through the holes in the cardboard for fastening. Solder all conections, using solder sparingly, wiping the soldered joints with an alcohol-dampened cloth.

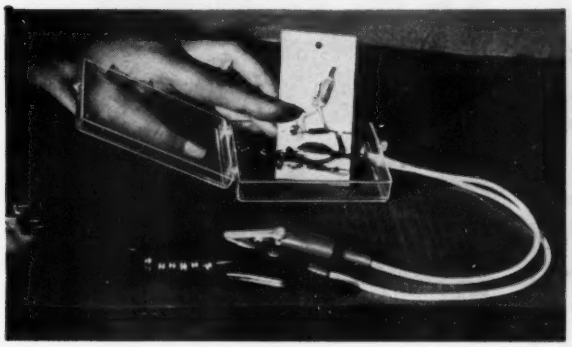


Figure 7

Pull the power cord through the hole in the end; tie a knot in it for an anti-strain. Lay the cord flat with its face pressed against the front of the case. Fasten it in place with short machine screws held by nuts.

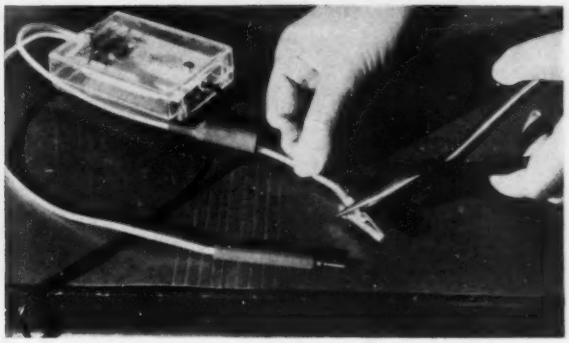


Figure 8

Be sure the alligator clip is well soldered to the test wire. Make the power cord 6' long, and use insulating sleeves down over the test probe and 'gator clip.

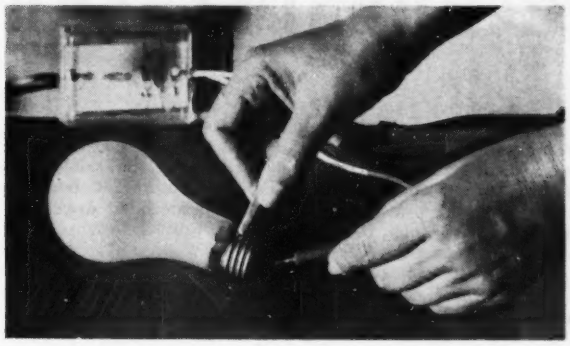


Figure 9

Electric bulbs are like radio tubes in that, if their filaments burn out they're dead. One end of the lamp's filament is connected to the bottom of the lamp base; one to its side. If the tell-tale neon bulb fails to light, the lamp is burned out. Similarly, having located the prongs of any radio or tv tube to which the filaments are connected, if the neon bulb remains dark the tube is dead.

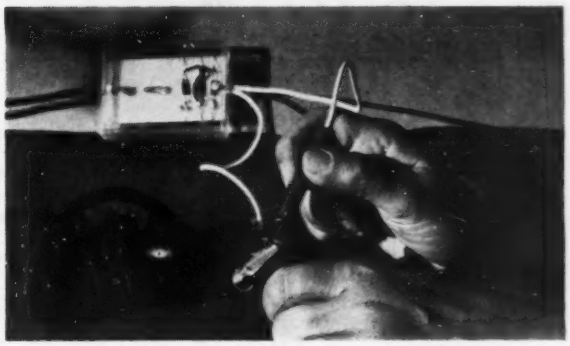


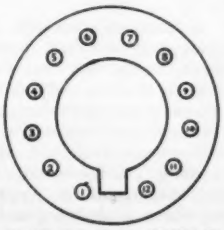
Figure 10

Plug the tester's power cord into an outlet. Plug the appliance in, with its switch off. Pinch one prong of the appliance's plug in the alligator clip. Touch the other prong with the test prod. The neon bulb should not light. If it does, a "short" exists. If it doesn't light, turn the switch of the appliance on. The neon bulb *should* light. If it doesn't, there an "open" in the appliance.

tell-tale neon glow lamp fails to light, the tube's filament is burned out.

Picture tubes are reached readily for testing by removing the socket or base at the rear of the tube, without moving from position the ion trap mounted around its neck. This is accomplished by first removing the rear panel of the video set.

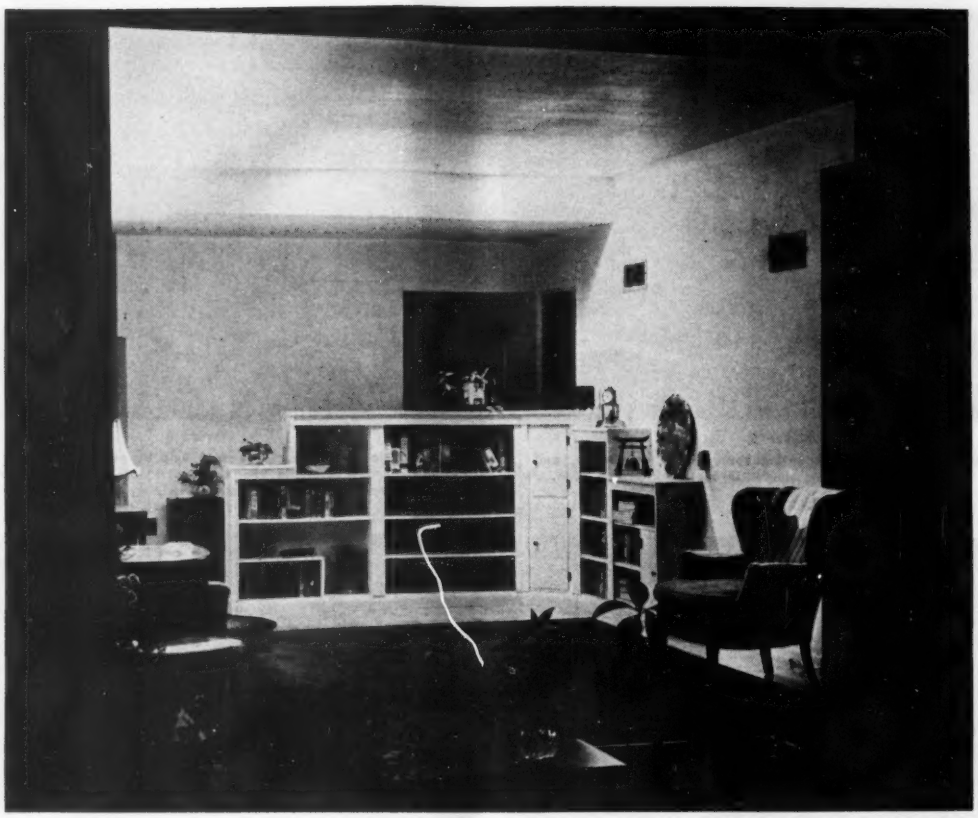
It should be remembered that if a filament checks good, the tube still may be bad, from a number of causes beyond the scope of this simple tester. Emission may be below the specified level; there may be defective internal structure, etc., which are best left to the service man.



BASE OF TV PICTURE TUBE

But the method outlined, plus the tester, will locate the vast majority of nonfunctioning tubes.

In addition, by providing a reliable check of home appliances, it will be a source of satisfaction to the home mechanic who likes to "shoot" his own electrical troubles, and it lessens the strain on his budget.



Night view through a window.

A *Versatile* DESIGN FOR

TO ITS 33rd letter that title's correct. So it foretells that we'll consider chiefly the design, not merely one of its products as shown. Being versatile, it can be used for screens, half-walls, room dividers, cabinets for card tables and dining table boards, closets for linens and childrens' clothes, for storage shelves of books, utensils, serving dishes, for art objects to beautify the room. Moreover, the design is for hands unskilled but eager for the simple and worthy, though it be new. However, one's interest should be genuine, his care in the work reasonable.

Now let's understand "design" to have a three-fold meaning covering materials, methods, procedure. For materials—the less expensive satisfactory ones available generally. For methods—those for the unskilled man. For procedure—the easiest practicable order for one man to follow in spare time at his workbench, then carry section by section to final position for assembly and trim.

Materials

Soft lumber was used; white pine and fir plywood. Shelves are selected parts of common shelving, 1" x 12" x 16'. The ripped strips, with others from like stock, were used for posts and both frames. Edges of strips need not be smoothed since they're concealed, except possibly the lower of longer strips in top frame. Here again, selected parts for longest posts were sawed first, then working down to shortest frame pieces. All trim is clear white pine.

Quarter-inch plywood made the backs of sections and ends on both sides of posts. Also, the two dummy doors on diagonal of section 3. Three-quarter plywood made the tops of all sections, the large lipped door on section 3, and the square-edge one on section 5.

Staple hardware was used, including many dime store items.

Methods

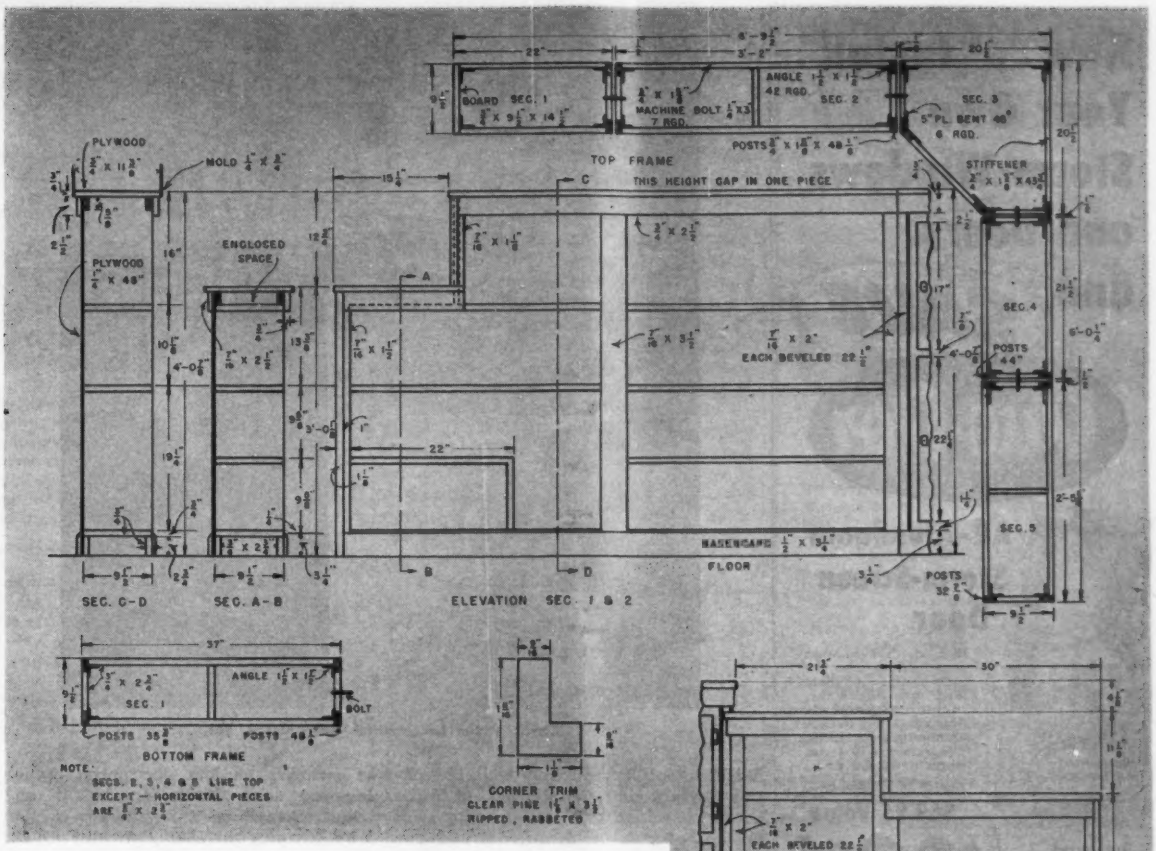
Instead of jointing like the skilled cabinetmaker, steel mending angles and plates were screwed onto the members' ready flat surfaces. This helped to keep the need for tools to a minimum. So only the most common of carpenters' hand tools actually were required, although access to a sander and power circular saw is advisable. Without these, ripping and sanding the common shelving would become drudgery. In fact, equal workmanship would require more expensive lumber. With a combination hand and table-type power circular saw, and sander that would suffice, available for $50, few men could afford to tolerate hand work.

Procedure

Our first thought was for a screen to block the view from living room to tiny hall opposite bath and two bed rooms. Using a 4' x 8' sheet of plywood we at once got general dimensions for the screen. Its height would have come around 5', but the floor is a two-level with steps where hall and room join.

For practicability of one man building at the bench, then assembling on the site, we divided the required screen length into sections 1, 2 and 3 to the wall. It was obvious that section 2 would be easiest, so we proceeded. Fixing the finished shelf width at 9½", stock was ripped a trifle wider for planing and sanding flush with front posts before assembly.

Width of post, 1⅝", was determined by the spacing of screw holes in the 1½" angles connecting posts to frames. Different hole spacing in other size angles would require a different width to keep screws safely from the edges. According-



UNSKILLED HANDS

By HARRY E. BILGER

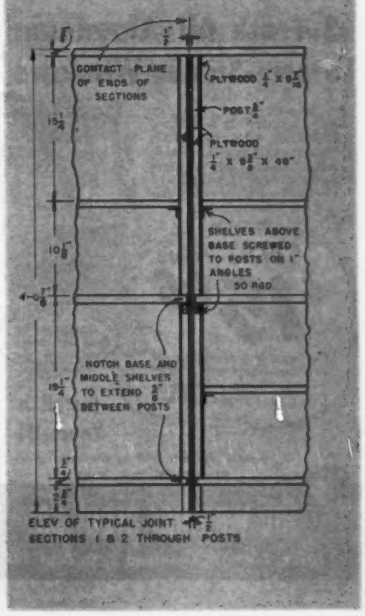
ly, angles should be bought before sawing frame strips. But angle holes will come so close to edges that holes should be bored for screws. Once the width is determined, however, all posts and top frame pieces should be identical.

Before ripping strips for bottom frame, decide whether baseboard of room is wanted around the job. If not, decide height for bottom shelf above floor and subtract ¾" to get width of framing pieces. But if it's wanted, subtract ½" from height of baseboard, and bottom shelf will come ¼" above. I did this with pleasing effect, making the job appear unlike movable furniture.

Top and bottom frames completed, have them in vertical planes on a low bench when connecting posts. This carcass will be wobbly, so work gently until bottom shelf and back are in place. If warped, shelves should be attached convex upward. Notch the corners to bring this shelf flush with the back of posts and ⅝" between them at the ends. Attach permanently to frame with finishing nails, some screws if warped badly. Next attach the full width of machine-squared plywood back to rest directly on the floor, and measure ¼" less than carcass horizontally. These two make the job rigid for notching and attaching the middle shelf.

Because the sections are to be contacted end to end, it's tempting to omit plywood at ends outside the posts. Don't do this. These outside sheets extending full height are needed stiffeners that warrant the ratio of total height to base width. Note that remaining shelves are attached after the end plywood inside the posts. Also, that all shelves except the bottom are screwed to posts with 1" angles underneath. Without top, trim, baseboard, sections at this stage would be ready for two coats of paint. However, this one should be placed on its site for study of adjacent sections.

And what subconscious wisdom in this step-by-step study! it was here that we began to sense things; began to learn our own needs and how to get them—also, how to miss them. First, that for appearance the screen shouldn't extend full



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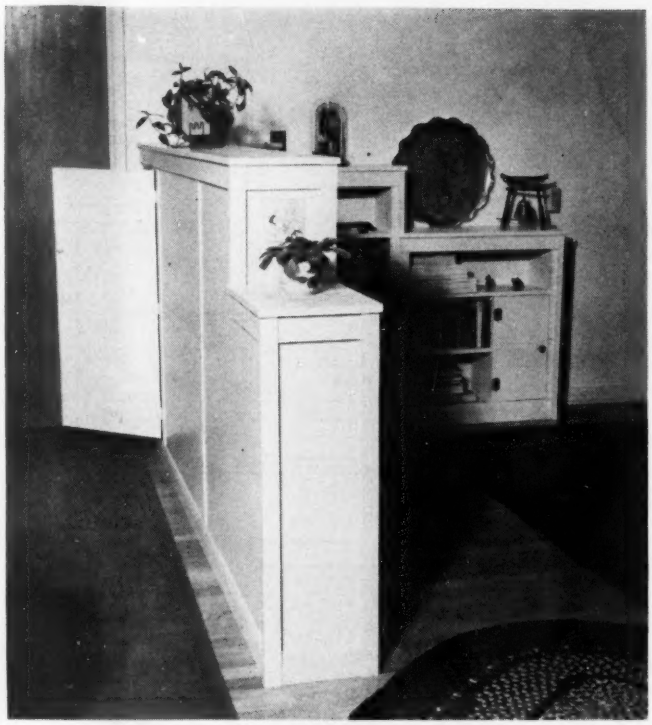


Simplicity can be beautiful—save money, too.

height to end farthest from wall. So, section 1 was to be made notched out in the corner; in effect, with part of its top shelf on the outside.

Then, it seemed that a lower shelf might be shortened at opposite end, to display items too high for one space. These simple differences from section 2 improved both. Now, what to do about section 3?

Right here's where we discovered our need second only to the screen—a convenient place to store extra boards for the dining table. Said boards were therefore stood on end between section 2 and the wall. Measurements taken around them showed a wider base was required. So, to avoid an unsightly square offset bottom to top, the 45-degree transition was used. Thus, section 3 was conceived, save what to do about that unbroken diagonal surface of plywood. Simply more plywood! But in two pieces with rounded edges, real hinges and knobs. In short, two dummy doors leading only to embarrassment. Perfectly simulated doors, of course, but attached with screws from inside. The section's real door, full height, is on opposite side adjacent to kitchen. Boards are taken to the dining area off living room via two kitchen doors. Incidentally, this section could be made to serve otherwise; as with shelves, or with hooks and pole for clothes.

Three sections temporarily in place, we saw perfection as a screen. In fact, already it was more than a screen, but the over-all appearance failed to charm. The enlarged section 3 impressed one as a club foot on a graceful leg. To help shadow 3, why not add 4 and 5 contacting the wall? Done, and with trim whittled to a nicety for the wavy plaster.

In stepping the sections for effect, judgment was helped by the chance locations of switches, outlets, thermostat, which imposed some limits on height and length. Something was gained in section 5 by breaking the shelf line with a door. This space, with two lift-out shelves, is for the miscellaneous not-to-be-strewn-about-the-room.

General Features and Missed Opportunities

The greater shelf spacing toward the top was by design. Standard sets of books usually come of uniform and smaller size than miscellaneous ones appearing singly. Uniformity tending toward monotony, we decided to depress the sets behind the big chair for this corner, reserving the more conspicuous spaces for the larger more colorful ones. Also, greater height toward the top was wanted for display of unnecessaries exchanged by Santa Claus.

Sections 1, 2 and 3 are bolted together at top and bottom. Brought close to final position, they were turned over with backs flat on the floor. After bolting, they were lifted and slid to exact site. Sections 4 and 5 were likewise bolted, but 3 and 4 only at the top. This bolting makes rigid units of the ell legs, and each leg assures stability of the other.

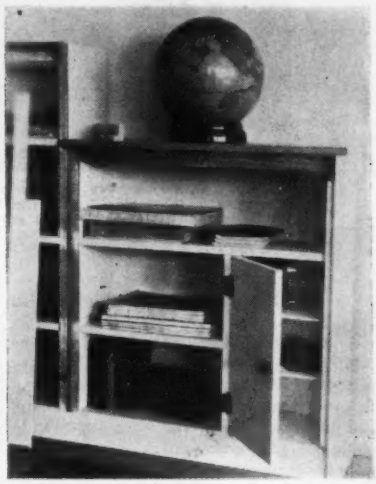
The level top, or cap, on sections 3, 2 and part of 1 is continuous plywood not permanently attached. Instead, screwed underneath are five 1" steel angles and four screw hooks. Their corresponding screw eyes are in the frame. Hooks prevent uplift, while the angles avoid displacement merely by contacting the frame's inner surface. All other tops are nailed.

The assembly usually is taken to be structural with the house, especially because of the baseboard being continuous with the room's, and the joints concealed by trim. To facilitate cleaning, painting,

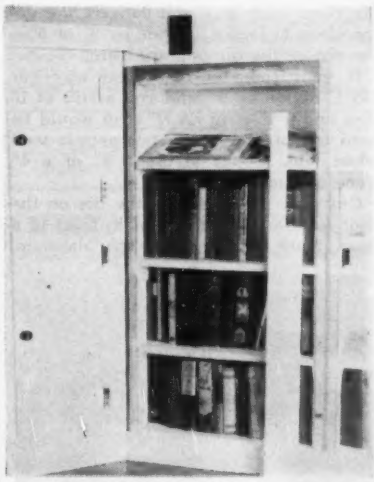
possible dismantling the continuous top can be unhooked and removed in a minute. Then, by removing some trim and the bolts, sections become disconnected units to be carried about like chairs.

Under sections 4 and 5 three inches of floor space could have been saved by reducing shelf width to 6½". In turn, this would have provided another striking offset from top to bottom near the dummy hinges where sections 3 and 4 meet. This width would suffice for most standard sets and the usual single book. Toppling over danger, regardless of height and narrow base, is all but removed by bolting sections and squaring legs of the ell.

Likewise, on the longer section a greater opportunity escaped captivity. Sections 1, 2 and 3 could have had a base 3" wider. Then, with shelves 3" narrower, a 6" depth of cabinet could have formed the opposite side of 1 and 2, and enlarged section 3. These two cabinets, each with double hinged doors, could have stored four card tables almost adjacent to their place of use. But it's done. One's rear-sight so often excells his foresight.



Section 5 partly trimmed. Note joint trim rounded to meet like edge of baseboard. Short corner trim ready.



Using while building may disclose needed plan changes.
Section 4 bolted and ready for trim. Note typical joint. Trim will conceal two posts and four thicknesses of plywood. On left beveled edges of trim form angle.

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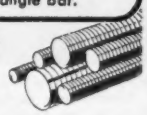

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OF COURSE YOU CAN LAY TILE

By GEO. D. YOUNG

Spread paste with putty knife to within ¼" of the line. Trowel down, scraping teeth of trowel on Masonite. Remove any surface surplus. Let dry until it will not stick to the thumb.

They're all doing it. Even the women. It's easy if you have the know-how. Like this:

Be sure the finish on the walls is thoroughly dry, in the case of a freshly painted room. Allow yourself plenty of time.

Remove any bumps on the floor. Sweep, and put down 4' x 4' Masonite or second-grade ¼" plywood, nailed every 6". Use nails recommended in the literature enclosed in the Masonite package. Common nails will work up and cause bumps in the tile.

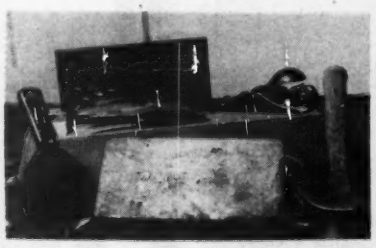
To establish the starting line, measure the room each way and convert the dimensions to inches. Divide by 9" or 6"—the size of the tile you are using.

If your room is 12' 1" one way (or 145"), divide by 9", and you arrive at 16 tiles and a 1" strip. A 1" strip would be hard to cut and would not appear well when laid. Better to use a 3" or a 4" piece on each side.

Cut your piece and lay the tile on the floor until you have a joint in front of a door. Mark the edge on the Masonite, and do the same on the opposite side of the room. Connect these marks with a straight edge. If you lay your tile true and straight, your troubles are over.

Check your measurements and do the same the opposite way of the room. Tile is laid so that the door, when shut, cov-

Lay tile, starting from a doorway with the partial piece. Then lay the full size tile exactly to the line. Next, lay one or two on each side across the room.



You will need a wide putty knife, a toothed trowel, a sharp thin-bladed knife, a block plane, and a hammer.

For correct measurement, when cutting the pieces on each side, lay the tile against the wall and mark each edge above the last tile laid.

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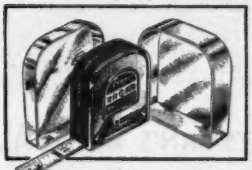

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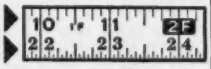

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ers the joint to the tile in the next room.

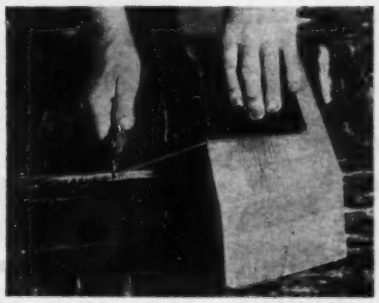
Lay directional tile alternately. Do not get any paste on the edge of the tile. Paste on the face of the tile can be wiped off with a moist cloth and a wire sponge.

If some of the squares do not lie flat, don't worry. They will all draw down. You can walk on them at once. Apply three coats of wax, one a day.

There are 54 sq. ft. of covering space in a box of 9"x9" tile, 96 tiles to a box, 16 to a sq. yd. If you can buy from a floor covering firm, you can get the exact number of tiles you need.

Do not use asphalt tile in the kitchen. Grease spots will cut the surface.

To cut tile, lay one tile upside down on the floor. Place the one to be cut diagonally across it, face up. Use a third tile for a straight edge; press down hard and cut with sharp thin-bladed knife at least three times.



To break tile, lay on straight square edge of wood, placing cut over the edge. Push down the outside piece with the weight of your hand to snap it off. This edge can be trimmed with a block plane. The tile may be heated on the underside with a blow-torch, or held over a very low flame, face up, and cut readily. This method is used for fitting around door openings.

Like to work with full size plans? See ad on page 320.

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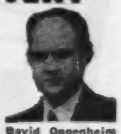

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Each kit contains all pieces forming the picture sawed to exact shape by an expert. Also the walnut frieze, mahogany backing veneer, special polyvinyl resin adhesive, professional inlayers' crack filler and spreader, hangers, penetrating finish, cabinet finishing paper, two outline drawings, complete instructions, all beautifully boxed.

The whole family, from high-school age up, will enjoy making these fine-looking plaques. DEALERS' INQUIRIES INVITED; STANDARD DISCOUNTS.

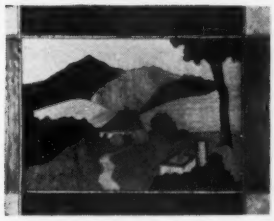
SIX SUBJECTS
$5.95 EACH

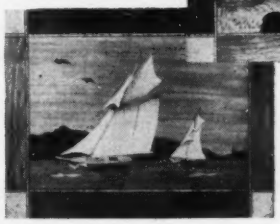
Finished size, approximately 8" x 10½"

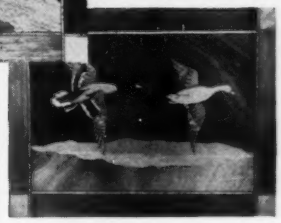
Left. No. B238, Mountain Stream

Right. No. B239, our Easter special, Golgotha

Below, left to right:
No. B240, The Homestead
No. B241, Yachting Scene
No. B242, Flying Ducks
No. B243, Old Mill







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No. B245, In the Country, 9¼" x 14" 3.72
No. B246, Spanish Galleon, 8½" x 13¼" 4.28
No. B247, The Homestead, 11½" x 13⅞" 4.62

FOUR OF OUR MOST POPULAR KITS

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Offer No.	Veneer	No. Sq. Ft.	Delivered Cat. Price	Delivered Sale Price
B255	Avodire	10	$3.60	$1.65
B256	White oak, U.S.A.	10	2.10	1.65
B257	Limba, Africa	10	2.10	1.65
B258	Mahogany, striped	15	3.25	1.65
B259	Mahogany, crotch, Af.	10	4.20	1.65
B260	Rosewood, Brazil	10	2.20	1.65
B261	Oriental wood	10	1.90	1.65
B262	Walnut, leaf-figured, U.S.A.	15	2.05	1.65
B263	Zebra wood	10	2.40	1.65
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☐ B218	1.05	☐ B239	5.95	☐ B262	1.65
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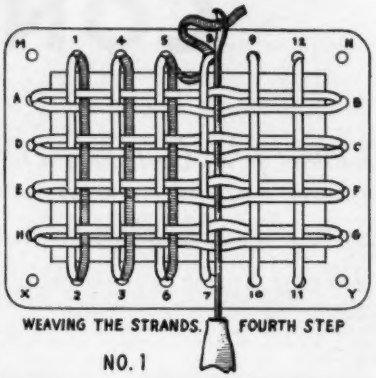
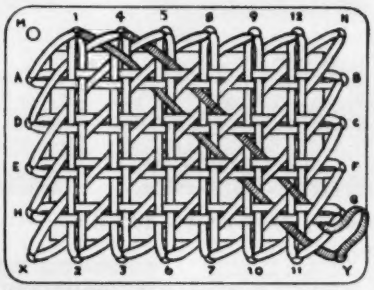
Q. Will you please tell me how to weave a cane seat to reseat an old chair? Where can I buy the cane?

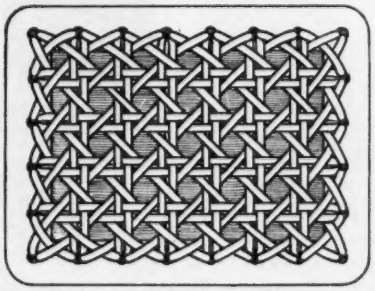


WEAVING THE STRANDS. FOURTH STEP

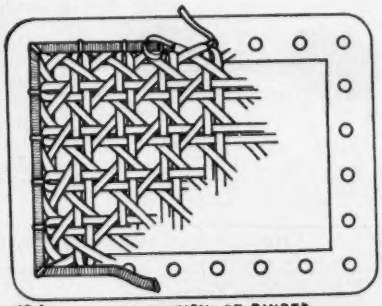
NO. 1



NO.2 WEAVING THE SECOND DIAGONAL STRANDS



NO.3 THE COMPLETED WEAVE

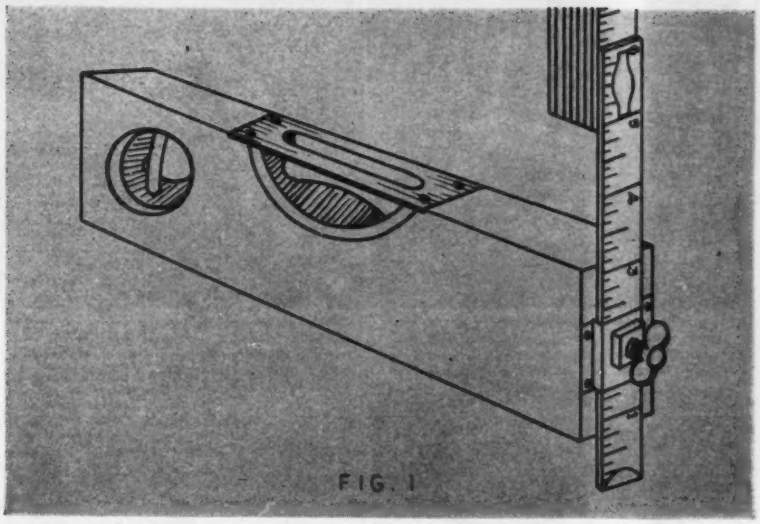


NO4. APPLICATION OF BINDER

A. Caning a chair is relatively simple if the instructions are carefully followed. The basic steps for caning are illustrated. In two of these sketches I have numbered them so that one may follow the text.

Before any caning is done three operations are necessary. Step No. 1—From the underside insert cane in hole "A" and pass through the top of hole "B", from under hole "C" to "D", then "E" and "F" and "G" to "H". This forms the

(*Continued on page 295*)



How to Make
AN INEXPENSIVE PITCH LEVEL

By CARL E. JOHNSON

FOR less than 25c, and a half hour of time, you may convert your level to a pitch level—a tool of value in nearly every building trade. It will perform every job where a pitch is required.

Fig. 1 shows the complete unit. It also shows that in no way is the ordinary use of the level impared.

Fig. 2 shows the individual parts without measurements. Your level and ruler will dictate the measurements to use. It is recommended that the parts be of brass or copper, of a gauge strong enough to stand some abuse. There are two reasons for this choice of metals. First, they are easy to work and solder. Second, they will not rust.

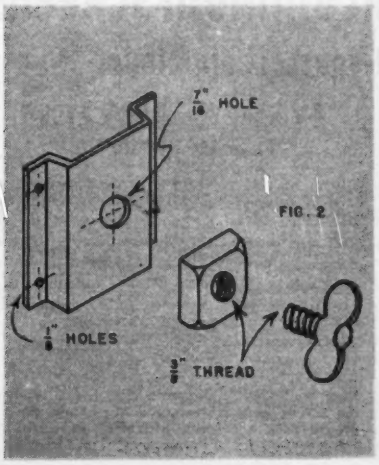
Fig. 3 shows the nut soldered or welded to the holder. The unit then is fastened to the level with wood screws, if the level is of wood or by drilling and tapping for machine screws, if it is of metal.

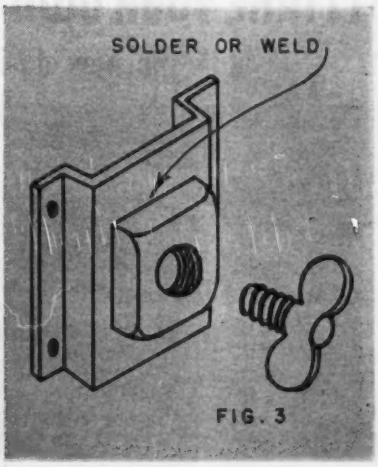
Now the pitch level is ready for use. This table explains its application:

Length of Level	PITCH PER FOOT					
	1/8"	1/4"	3/8"	1/2"	3/4"	1"
18 inches	3/16	3/8	9/16	3/4	1 1/8	1 1/2
24 "	1/4	1/2	3/4	1	1 1/2	2
30 "	5/16	5/8	15/16	1 1/4	1 7/8	2 1/2
36 "	3/8	3/4	1 1/8	1 1/2	2 1/4	3
42 "	7/16	7/8	1-5/16	1 3/4	2 5/8	3 1/2
48 "	1/2	1	1 1/2	2	3	4

First, select the length of your level in column 1 (we'll use 30 inches as an example). Looking at the top of the other columns find the pitch you want per foot (i.e., 3/8" to the foot). By moving your finger down the column and stopping at the 30" line, you will see the figure 15/16". That is the setting of your ruler below the bottom of the level. Easy, no?

A few jobs you can use the pitch level on include: steam risers and returns; drainage tiles, pipes, etc.; sidewalks, garage floors or any other job where a pitch or slant is required.





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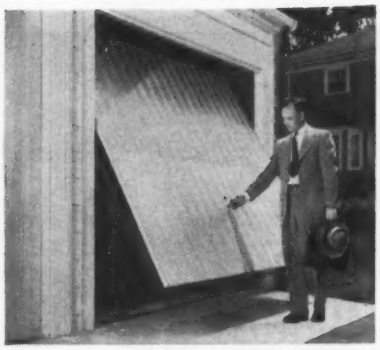

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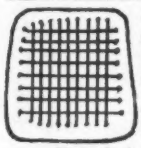

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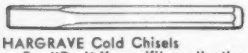

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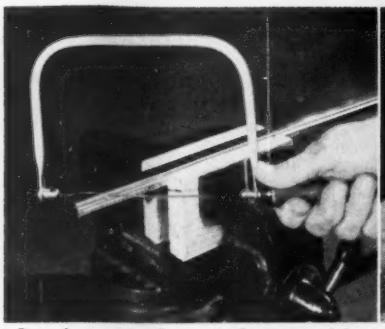
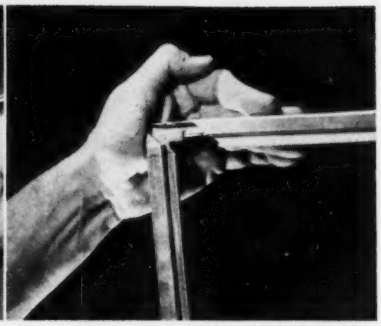
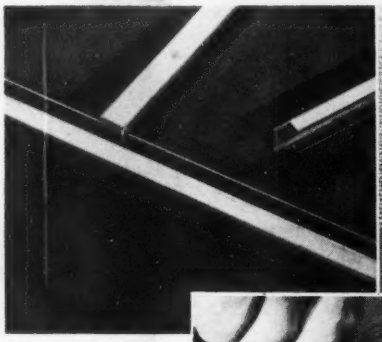


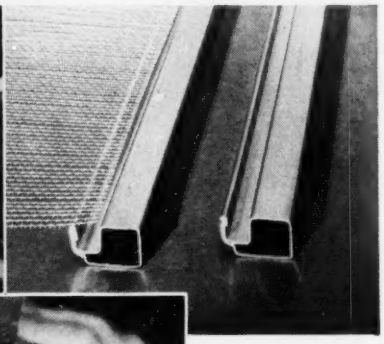
To make screens, frame members are cut to length with any sort of wood saw that may be available. The scroll saw pictured will do nicely. Corners are mitered with the groove on the inside.



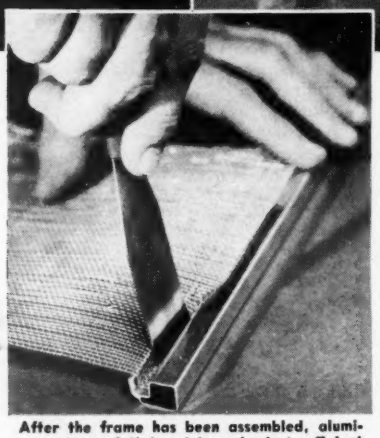
Corner joints are assembled simply by pushing clips into the hollow portion of the framing members as shown here. Of course, each end must first be mitered to a 45° angle before assembling with the clips.



For large windows where a brace may be desired across the middle of the screen, it is a simple job to cut the brace and lock it into the groove as shown above.



This close-up shows the screen framing member, the hollow section into which the corner clips are driven for making the corner connections, and also the groove into which the screen is locked.



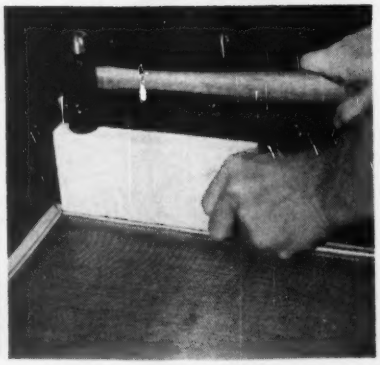
After the frame has been assembled, aluminum screen cloth is cut to a size just sufficient to extend over the groove. First step in assembling the screen consists of pushing the edge down into the groove with a putty knife as shown here.

MAKE YOUR OWN ALUMINUM SCREENS

with the new do-it-yourself aluminum

By G. W. BIRDSALL
Reynolds Metals Co.

Intriguing many home workshop enthusiasts these days is the new do-it-yourself aluminum—a new Reynolds material especially designed for the home craftsman. Unlike other metals, this aluminum has been selected especially



Next the spline is placed in the groove over the screen cloth and forced down into the groove with a hammer and block of wood. This securely locks the screen to the frame.

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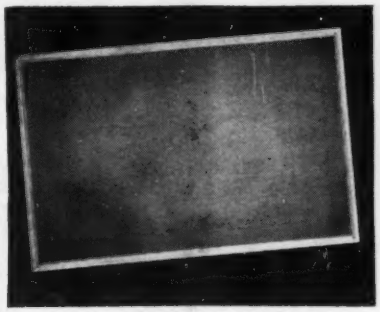
for use with ordinary woodworking tools. It can be sawed, drilled, and even planed like ordinary wood.

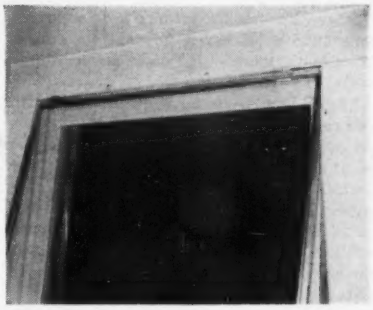
For example, the only tools needed to make aluminum window screens are a saw, hammer, and pair of shears. Any tools around an ordinary workshop can be used.

The accompanying pictures show the step-by-step operations of making the corner joints, by simply mitering the frame sections at a 45° angle and pushing in clips.

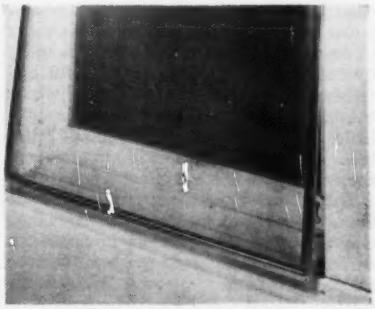
The screen is held into the frame by a simple spline which locks it into a groove in the framing member—and there you have your completed aluminum screen.



Now you have your screen completely framed and ready for installing in your window. Notice how easy it is to make an expert appearing job. Notice also that it is not necessary to miter the spline sections. Splines along the side are cut short enough to let the end splines extend across to completely fill the groove at each corner.



Simplest way to mount screens is to screw a clip into the window frame, allowing just enough space for the screen to slip in behind it, as shown here. Two clips atop each window are ample.



Bottom of screen is held inside the window frame by regular screen hooks and screw eyes as shown. By drilling a hole slightly smaller than the screw portion of the hook, the hook can be screwed directly into the screen frame.

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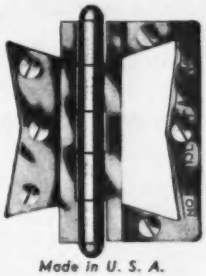

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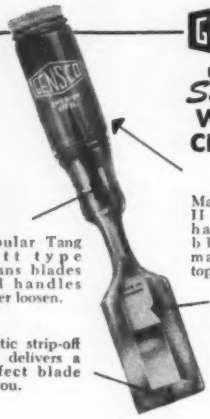

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HOW TO REMOVE PAINT AND OTHER FINISHES PROPERLY

By ELMER R. NIPPES
General Manager
Wilson-Imperial Company

Much has been published about painting for the do-it-yourself home owner, in *Homecraft & The Home Owner* and other magazines. It is logical that the do-it-yourselfer also should be told how best to remove old, blistered, cracked or alligatored finishes in order to insure the best results for his efforts and expenditure. Too often do-it-yourself is a case of "Love's labor lost," because a simple basic was neglected.

There was a time when interior and exterior paints were removed by powerful acids and alkalis which removed the paint all right, but which like as not were harmful to the wood. Sometimes they removed a bit of the painter's skin with the paint! For a number of years the accepted method of removing paint from exterior surfaces, by professionals and amateurs alike, was to burn it off with a blow torch. Not only did the blow torch usually scorch the wood, but it presented a fire hazard which was especially acute in the case of older homes.

Today there are on the market paint and varnish removers which will efficiently strip paint from interior and exterior surfaces regardless of the number of coats of finishes. These removers work by dissolving the old dried-up paint and finishes, then leave a soft sludge which is removed with a scraper and relatively little effort. After it is scraped, the surface is washed clean with waste rags saturated with alcohol or with sub-turps.

The advantage of these removers, aside from the saving in labor, is that they leave—instead of a burned, dried-out surface — an oil-impregnated surface which the first coat will cover well. Additionally, paint removers eliminate the necessity of sanding and re-puttying. Besides, the remover will not raise the grain or darken the wood.

Just as paints and varnishes differ in their composition, so do paint and varnish removers. For that reason, the best results will be obtained when the remover is chosen for its particular job. For instance, the paint remover should stay wet to remain workable longer. It should clean up easily and leave no gummy mess. The semi-paste type is best for upright interior and exterior surfaces, because it will not run off, and thus remains workable longer. Besides, it will not dry up as fast as the liquid type will when used outdoors.

Apply generously in short strokes—not more than 12". Flow on in one direction; do not brush out.

On the other hand, the liquid type is recommended for interior work, where the surface is flat and also where a fast cutting remover is desired—such as on varnish, shellac, and lacquer, although the paste type can be used very satisfactorily for this purpose.

A word of caution: Paint removers, almost without exception, are inflammable and should be treated with respect. Keep them away from open flames. There are non-inflammable removers available, but they are a trifle higher in cost than the conventional types.

One needs no previous experience to use a paint remover properly if he follows the manufacturer's printed instructions. There are only a few rules to be followed:

Use a clean full-haired brush heavily loaded. Apply the remover with a light flowing stroke, without pressure, and in

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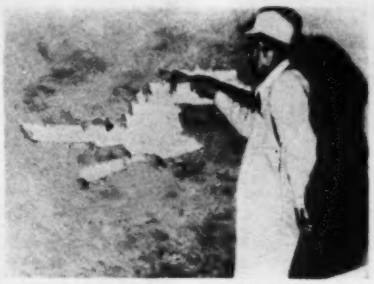
one direction only. Do not brush out the paint remover as you would paint. Don't brush back over a surface where it already has been applied. Spread it evenly for best results.

Use the flat of the brush rather than the tip. Limit your strokes to not more than 12".

Don't "race your motor." Let the remover do the work by allowing the first application 30 to 45 minutes for penetration. Then try a small section with your putty knife. If you cannot get to the bare wood without exertion, stop scraping and apply another coat of the remover. Give it a longer period to penetrate, perhaps an hour or more, and chances are the finish will come off in one scraping.



Much the same principle applies to removing paint from plaster as from wood.

Every paint removing job is different. One surface may have three coats of paint, another three times as many as that—or just a thin coat of shellac or varnish, etc. These are the conditions you must take into consideration when you use a remover.

In other words, test a small section before you go all out.

(*Continued from page* 290)

first layer of cane. Step No. 2—Place cane from hole 1 to hole 2, 3 to 4, 5 to 6, 7 to 8, 9 to 10 and 11 to 12. These second strips of cane run over the first layer of strands at right angles to them. Step No. 3—The third layer of strands run parallel to the first and over both the second and first. Connect "G" to "H", "E" to "F", "C" to "D" and "A" to "B". You will notice we started at "G" hole. Do not change the order of placing the strands. On a large frame you will have accumulated a number of loose ends. Pegs should be used to hold them. The ends may be tied by twisting them around the loops of strands which run from one hole to another on the underside. Step No. 4—See Sketch No. 1.

The actual weaving now begins; a caning needle or heavy wire helps to weave the strands. After the strand has been pulled its full length through a particular space, it is threaded into the eye of the needle and is then pulled across the frame by the needle. Starting at hole 2 connect 2 to 1, 4 to 3, 6 to 5, 8 to 7, 10 to 9 and 12 to 11, under strand 2 and over strand 1. Step No. 5—Arrange the strands in pairs; if they are dampened they will pair more easily. This forces the cane

(*Continued on page* 313)

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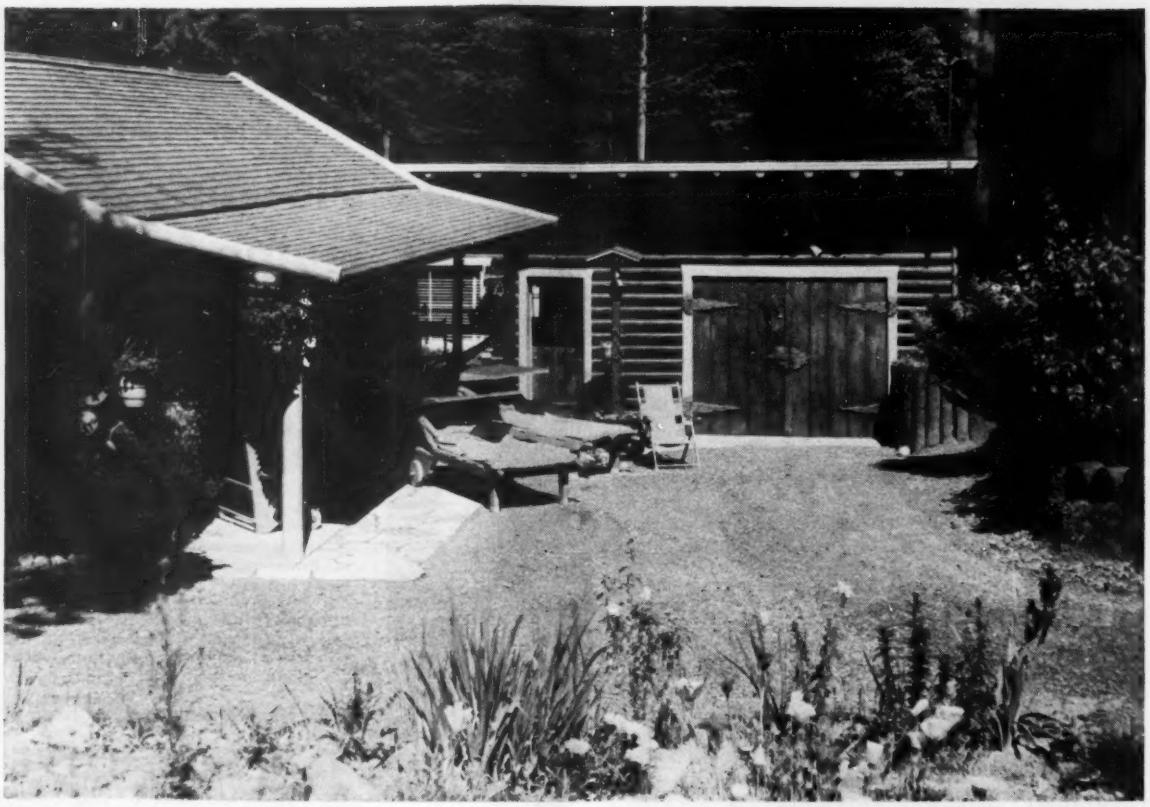


The Lodge after the porch had been added, the roof sanded, siding had been put on the back unit. All doors matched when finished, with raised studs and oversize hinges.

YEAR 'ROUND VACATION HOME

where do-it-yourself is king

Perhaps this article will give you a few ideas for adding more character to your own cottage or cabin. Certainly it ought to suggest other equally appropriate do-it-yourself opportunities.

By LYNDON RIPLEY

EVEN if we do live at the city limits of a town by the same name, I believe my wife and I will be pardoned for the expression: "Eureka! Here at last!"

Here? To be sure. It came about after considerable labor, conniving with used and reject materials, and a limited budget. We really are snug in a home of our own—"Lynwood Lodge". After hearing our friends tell us it combines a beach cottage, vacation cabin, mountain chalet, town apartment and city house at Eureka (California) city limits, we've come to think that this is so. Perhaps you too will think the same, after learning what we went through and what we accomplished.

We must have done a pretty fair job of working over our investment because, when the former owner paid us a visit recently, he exclaimed half to himself: "It can't be! It can't be! Beautiful! By George, it's just beautiful!"

It was in June 1948 that we took over the unfinished, four-room log cabin surrounded by a junkyard acre of ground. Two years later my wife finally let down. "Lyn," she confessed, "at the time we moved in, I couldn't for the life of me fathom what you saw in the place. I figured we'd been bamboozled, but good."

"Well," I admitted, "for months, as I worked, I was half inclined to suggest moving out of the dump. If I had visualized the work ahead of me I don't think I'd have started I will say, though, I've learned plenty in the process."

The place, to say the least, was a mess. A clay mound out front had been covered with berry vines and weeds. A looping driveway of rocks and crab grass was used by almost everybody in which to turn around on the dead end county road. The garage was unfinished, with rough-cut open-cracked planks. The back doorless shed was covered with mottled,

Stones were culled from a nearby bank on a county road. Shakes were split from redwood chunks thrown on a lumber mill's incinerator pile; after they were put on "jazz style" they were coated with asbestos roof coating and sprinkled with tan sand.

mossy green shingles. A tired and leaning chicken coop beside it, shingle covered too, with half a foot of "fertilizer" on the floor, was the undisputed headquarters of big, fat rats. Mice and grass snakes played hide and seek under the house. More than once there were the usual indications of a skunk in the vicinity. A pig sty, under the sagging, dirty rope used for a clothesline between jumbo redwood stumps, was a mecca for slugs, snails and sow bugs.

We tackled the interior first

To make life livable, the cabin interior was finished first. Drying cracks in the redwood wall (real logs) were calked and filled with an assorted bargain lot of spackling and wood fillers. The mess of drooping, exposed electric wiring was rerouted out of sight. Dusty, cobwebby deer heads and horns disappeared from the living room. Four dozen odd pony horseshoes were taken down from over doors, archways and windows. A shower was installed over the tub in the bathroom wing, with parts picked up at local junk shops. A linen closet and clothes compartment, with lights, took the place of catch-all recesses that had held guns, sleeping bags, tarps and assorted outdoor camping equipment.

The raw log beams which supported the shingle-covered tongue-and-groove roof were smoothed down and painted buff. Floor linoleum, an assortment of worn patterns, was patched with new remnants and given two coats of a quick-drying, tough plastic, tan enamel.

Cabinets already in the kitchen were gone over, painted white with green interiors. Log walls became yellow with cream mortar between. The old electric range was repaired and new stainless steel rings and drip pans installed under the calrods. Adopting a Mexican motif, a utensil board was made for one corner; colorful gourd chains were hung in others. Shelves were put up with wooden peg supports. Yellow curtains were hung with shower curtain hooks on wood rods made from poles once used with window washing brushes.

The smoked up, discolored fireplace in the living room was renewed with painted stones, an imitation stone hearth, and decorated railroad rail andirons. The old firescreen was cut down for a low spark catcher, and a folding brass affair —bought at an auction for $1.98—added to the colorful ensemble. A piece of grained plywood was fitted for a draught panel to keep precious house heat from fleeing up the chimney. The oily mahogany logs were scoured and painted tan with cream-buff mortar between.

That first winter we burned a small mountain of redwood stumps in the fireplace, culls that had been grubbed out of the yard and nearby road. Later, when we had a thermostat-controlled gas floor furnace, we just shook our heads at the recollection of Abe Lincoln pioneering.

The bedroom became yellow and cream, similar to the kitchen. The bathroom was painted a light green, with cream-green cement between the logs.

The finished porch job as visitors see it, approaching on the graveled driveway.

The wooden brush poles worked so well as curtain rods in the kitchen that we made more brackets and poles to support the brown rep living room and bedroom curtains and the dark green pairs in the bathroom. We needed several pieces of furniture but planned to make them later, after we had put a little order into outside surroundings.

To give the place a bit of personality, a rustic sign was assembled and installed in the front "island." It was lighted with equipment made of old electrical parts and water pipe conduit. "Lynwood Lodge" was lettered on the shellacked redwood planking in orange and shaded with dark brown. Brass strips were tacked on under the chain supports to imitate an expensive job.

The cracked, bleached-gray log exterior of the Lodge was filled with bargain-priced crack fillers, then paint-stained a chocolate brown. The dirty white mortar in between was painted a tan. When dry, two coats of log oil—an elastic blending of oils—was brushed on. At one time we tried outside spar varnish, but found that it cracked and grew opaque in salt air near the coast.

To give more finish to the windows,

Small logs extended 8" above the flat top of the stump in center background. This also is the slanting walkway between the back of the Lodge and the laundry-study at left.

The shutters were made in sizes to fit the various windows. These, on a bathroom window, are complemented by the log-style plant box below.

Suggesting how the shingle roof appeared after asphalt coated and "oatmealed" with sand. In the rear is the study, with convenient driveway light and Monterey-Dutch door.

The county road is beyond the logged island and fence. Note the convenient folding shelf for bundles beside the door.

rustic shutters were made. These evolved from reject rustic siding, with oversize wooden hinges and cutout tree motif. They were imitation wood grained in brown and tan, the tree outlined in orange; they harmonized very well with ivory sash and tan frames.

The clay driveway was covered with fairly fine gravel and bordered with 10" thick sections of redwood logs. The front island was shoved back and upright redwood logs formed a hold-back to the raised ground. It was planted with gold dollar plants.

The chicken coop was torn down. Its fertilizer was dumped in the back yard, to be used later in the vegetable garden. The redwood poles of the frame were used for a front fence and gate, wire covered later. The shingles were used on reject tongue-and-groove to make a porch for the Lodge. The square foundation beams of the coop house were rounded down like flattened logs and used for porch cross supports. To cover cracks, gouges and stains of the shingles, black asphalt coating was brushed on, then sprinkled with creamy sand, hiding the black entirely. We gave the Lodge and later the garage-shop roofs the same treatment, for it furnished a pleasing oatmeal finish and—as we were pleasantly surprised later—a lower fire insurance rate, due to "composition" roofing.

The porch floor, formerly just a roofless lip, was given two coats of a non-skid, deck tan enamel, the cement walk in front painted in soft colors to imitate stepping stones. Mexican gourd chains in yellow, green, brown, buff and orange, as well as rustic baskets holding plants, were hung near support pillars.

Oil lanterns were converted to use electric bulbs inside their globes. One was used on a shellacked tree branch on the porch wall, two others housed under stud-trimmed shelters on poles for driveway use. The globes were stippled cream-yellow inside, the lanterns painted orange, and the rivet-finished shelters a varnished brown.

To help fill an open spot near the redwood block walk beside the driveway leading to the garage, a "wishing" well was created. Small rocks were set in cement in circular style and log uprights supported the roof. A small pickle barrel was sawed in half for a bucket. A roller, branch handle, and old rope completed the design. Discarded redwood blocks were split into shakes and nailed "jazz style" to the roof frame. When finished it was brown with tan trim, with brightly colored stones.

To retain the rustic motif, a load of third grade, knotty log siding was bought at a local lumber yard. It was cheap, reject material and heavy as lead with winter rain. When the hammer accidentally hit the wood instead of a spike it squirted water. A peculiar thing about the slabs, however, when drying in place, was that the slight shrinkage was lengthwise rather than in width.

This siding, milled from 2 x 8's, was put on the garage-shop and the back shed "addition." This latter became a divided laundry, study and storage unit. When fairly dry, joints were puttied, then stained a chocolate brown with thinned outside house paint bought at a sale. Uneven imitation mortar stripes were painted on between, in tan shade. Later two coats of log oil were put on.

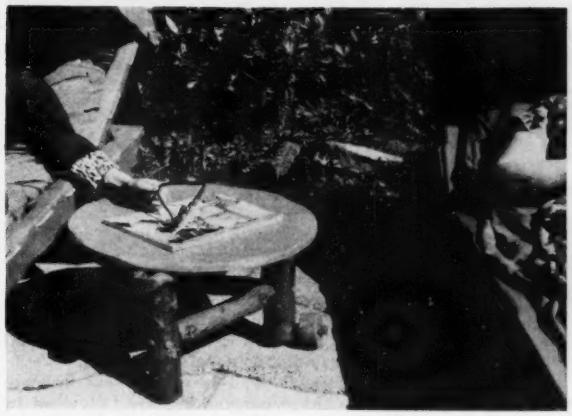
To give the garage-shop a distinctive touch, a cupola was made of junked parts. The small logs, to match the building's siding, were fashioned out of garden bean poles. The weather vane was assembled with curtain rods, galvanized tin, a roller skate wheel, bicycle handlebar grip and rooster whisky bottle ornament. When painted metallic brown with orange letters and orange-edged roller-bearing arrow, no one knew that it had cost less than a dollar.

Doors of this garage building were made to swing outward on their oversize hinges. Rustic stops, with kick-up bars, were planted to grip them in any wind and hold them secure when open.

To make use of siding trimmings, flow-

The Lodge porch from a southeast garden spot, where the chicken house had been located.

Before the porch addition. The back woodshed still needed a "face lifting" to become a laundry, study and storage unit.



Note that the height of this roller table is slightly below the normal height of a chaise longue. It is easily moved so that you may reach your magazine, papers or iced drinks with little effort.

Barbecue, fireplace and sink-over-wood-storage stone ensemble, covering an old stump in the restful patio. The whole unit was made of reject, salvage and junked parts.

er boxes were put together for porch windows. Ends were rounded and curving sides grained like bark. We liked them so well that others were added to the study, bathroom and garage windows.

Other remnants of this bulge-front siding were used to make a husky kitchen table and benches. When finished, the set appeared plenty rugged, with wooden stud joinery, edge gouges, cutout leg cactus design. It was paint-grained a honey brown.

As time went on, we grew a bit weary of trying to keep warm in the winter with just a fireplace. After we installed the gas floor furnace in the living room-bedroom archway, we were sorry we hadn't done it before. What a wonderful convenience, not to forget the saving of two-thirds of a plumber's asking price. In addition, we laid water pipes to the laundry in the back addition, installed laundry tubs, constructed a "Romeo-and-Juliet" log balcony from which to hang clothes on a long wire reel line.

When the job was finished all doors and shutters matched. All had large woody grain, oversize wooden hinges, with doors having big lock plates and slide latches. The doors of the study and laundry were Monterey-Dutch style, merely half-and-half doors trimmed á la Fiesta style with wooden rivet heads made from broomstick handles.

The study-office for the man of the house developed in the center of the back building. Reject ¼" plywood was bought at 2c a pound and used to cover the smoothed-up floor, insulated with several layers of old newspapers. Linoleum was laid over the plywood and was enameled a plastic tan. The walls were filled in, also covered with newspapers. Bevel-edged squares of this same plywood were nailed on, then stained walnut brown.

The study desk was made out of imperfect ¾" plywood. One-inch bean poles added thickness to the top edge, to suggest massiveness. It was open front and back, with an end panel having a tree cutout; it became an integral part of wall shelving with rounded ends. A desk footstool, letter tray, file and odds-and-ends desktop bin were created with plywood scraps. This ensemble is described in the March-April 1954 issue of Homecraft & The Home Owner. Two desk chairs, a stool and chaise longue were added, made of ¾" desk trimmings and basket-woven jute webbing. This webbing is commonly used (out of sight) in upholstery shops to bind springs. It is inexpensive, 3 yards for a dollar, but was just the tan shade we wanted to go with the darker brown furniture. A photography bar was built opposite the desk, finished in the same studded, weathered style to match the desk, shelves and furniture.

The space between and behind the Lodge and back building was cleaned up with brush knife and "hoe-dag." Cement and gravel were mixed in a steel wheelbarrow and poured pancake style. This was trowled to about two inches thick, leveled off, with curving cracks imitating stepping stones trowled in.

Patio For Outdoor Living

A spacious patio was laid out with an 8' wide dirt "collar" all around. Taller shrubs were planted in back and graduated down to low plants in front near the vari-colored rock border. Later on changes were made, by grouping the growing things for variety, size and color.

To give privacy around the patio, a basketweave fence was erected with 2 x 4 trimmings and bean poles between log posts. This was stained dark brown, furnishing a base on which roses and honeysuckle could climb.

Two roller bunks were made from old redwood 2 x 4's and ¼" rope, with adjustable canvas sun visors. A low roller coffee table, to use with these, was designed with small log legs. A larger, round-topped table companion was constructed with center hole to accommodate a lawn umbrella. A folding 4' x 8' table and 6' plank benches were made from chicken coop leftovers, painted tan and trimmed with orange. A rock barbecue-fireplace-sink unit came into being against a redwood stump and was finished Mexican style, with portable dish,

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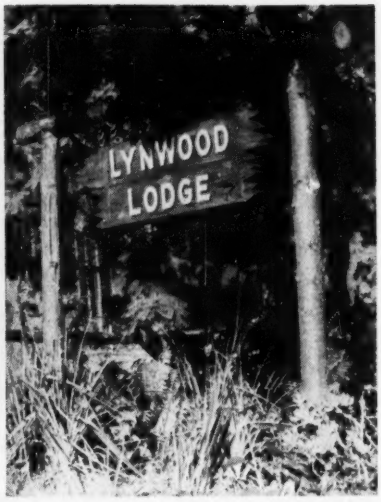
The table and bench set in the kitchen, made from scraps of redwood log siding.

The folding table and benches on the patio "stepping stone" cement.



This whole sign was made of discarded items. The board was unused window ledges, the poles put aside when clearing land.

utensil and condiment cupboard. Later on we added a portable hammock, folding Hollywood chairs and rolling slat bench.

The space under the wing bathroom was dug out, cement poured to match the patio, stepping stone style, and rustic doors fitted on. Into this handy space was rolled the patio equipment when not in use, out of sight and under cover.

Many little inexpensive touches went into the place to make it different. Pound size coffee cans were de-bottomed, in which to put flower pots and nail on walls or fence. "Peek-out" windows were cut in the two Lodge doors, equipped with dowling bars and inside swing panels; a folding shelf beside the living room door took care of bundles and packages when we chose to use a key; a coat of arms burl shield indicated our family origin in color.

The landscaping of Lodge grounds was most inexpensive, for we bartered with friends and neighbors when spring clean-up time came around. We gradually spaded up three spots for truck gardens and sank a planked compost pile in a tree-hidden back yard corner. Young redwood sprouts around small stumps were top trimmed and rounded off; they gradually filled in, hiding the stump center and gave the impression of well-kept estate shrubbery.

Whenever large stumps were located to advantage, their sides were trimmed flat and surrounded with a circle of small, upright, anchored logs. Dirt was shoveled into the sunken centers and evergreen shrubbery planted therein.

When we began to catch up on our general going over, we took time out and created several pieces of furniture to "match in." A footstool and end table were made with scrap lumber in Fiesta or Early California style. A telephone wall shelf, with book nook and plug-in light, was evolved from ¾" plywood. Table lamps had twisting driftwood bases, their shades a cream cover stock and laced to old, gold-painted frames.

A big shelved bed head was created from old planks and imperfect plywood. It was grained light brown, to match birdseye bedroom furnishings and equipped with night lights, gooseneck reading lights and sliding "serving boards." See the January-February 1954 issue of Homecraft & The Home Owner for a complete description of this.

A little later on we added a large wall painting over the bed head shelves, to help fill an open stretch of logs. It was a 4' x 8' piece of ⅛" hardboard, frame braced in back. On it an unobtrusive coastal scene was painted in soft, flat-finish pastel tones, mostly tan, light green and cream—simply leftover wall paints.

In our close-in location in the county, with the city limits line down the middle of the road out front, we have all the desired conveniences: milk and newspaper service, city water, telephone, electric light, gas, garbage pickup and store deliveries. We are one block from the city bus line, two blocks from Sequoia Park with its primeval redwood charm. We even have our own second growth redwoods in a back yard fringe, and at times enjoy special slanting sunlight effects through lacelike cobwebs and jewel-like dew.

Today the shrubbery has grown and spread out and made the Lodge grounds increasingly attractive. Friends have told us that we have our own lovely park.

What we have accomplished in a modest way, you too can do. You are more fortunate, really, if you have a conventional house to fix up, for most home owners are with you, catered to with tested materials, tools and methods.

THAT CUPBOARD DOOR MENACE NEEDN'T BE A MENACE AT ALL

By ETHEL RUSSELL

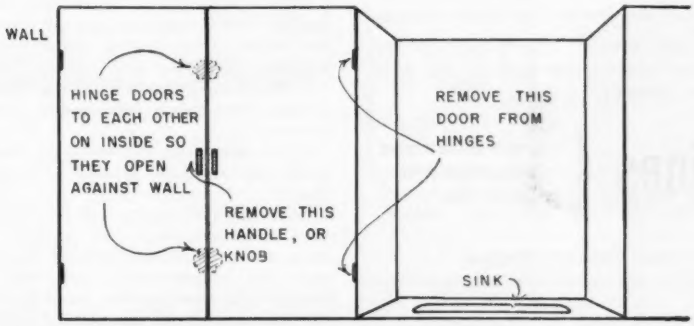
ARE you disgusted every time you wash the dishes, because you must dodge cupboard doors which open out over the sink? Especially when you forget to duck? An amateur carpenter, a couple of hinges, and some wood dough is all it takes to clip the menace's wings.

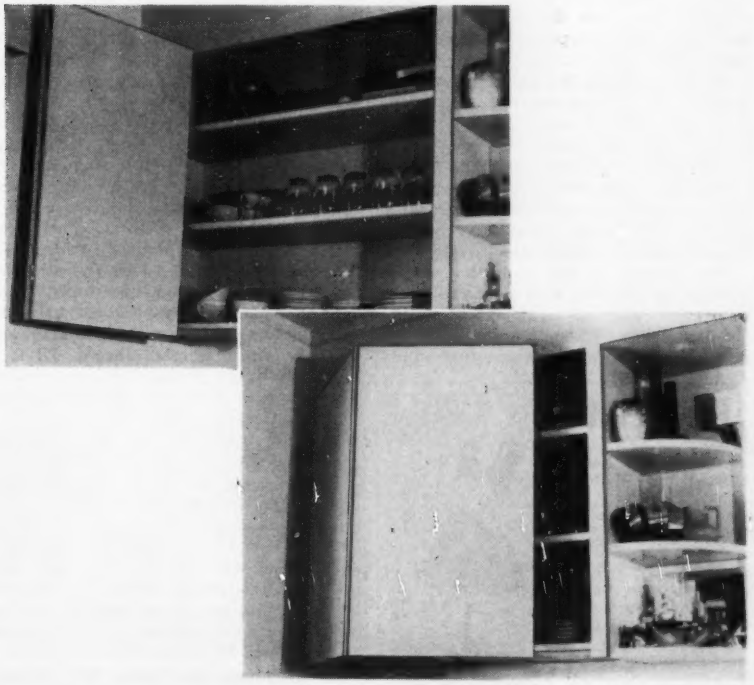
First, remove from its hinges the cupboard door that swings out over the sink. Then, using butterfly hinges on the inside of the outer edge of the remaining door, hinge the removed door to it instead of to the cupboard. This double door then will fold inward and back against the wall away from the sink, thus exposing the entire open cupboard and remaining out of the way. Simple, no?

If your doors are exceptionally heavy, it may be necessary to substitute larger hinges on the door attached to the cupboard which now carries the weight of both doors. If they are made of light plywood, this will not be necessary.

If your present doors have cabinet pulls or knobs for opening, the one on the removed door will be just where you want it for opening both doors. The other, if it interferes when the door is opened against the wall, may be removed. It is not necessary to have any cabinet pulls or knobs if the doors extend below the lower shelf of the cupboard, as they may be pulled open from the bottom.

Fill in the holes made by removing the hinges and knob, and paint. The result will be appreciated every time you work at the sink.





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(*Continued from page* 277)

ping chuck key with plastic hammer. This procedure avoids damage to the gear shaft or gear.

6. To clean the armature bearings, wrap a clean rag around the armature windings and direct a stream of solvent from the plastic wash bottle directly on the inner race of the ball bearing, repeating this operation until the old grease is washed out. Before turning the bearing, add several drops of good oil (SAE 10-30 weight), then revolve the bearing slowly and feel for rough spots and excess radial play. If after several washings the bearing still is rough, it should be replaced. Re-pack bearings with a good grade of ball bearing grease, by forcing small amounts into the bearing with the tip of the finger until it is full, then wipe off the excess.

Do not attempt to clean bearings with seals on both sides; these bearings are lubricated for their lifetime.

Clean the switch and trigger assembly with carbon tetrachloride and a small stiff brush. After the carbon tetrachloride has evaporated apply vaseline to the switch contacts and trigger mechanism. Vaseline will not harm the switch but actually will keep the contacts from galling.

7. With the drill disassembled, wash all parts with cleaning solvent except the housing containing the field coils, armature, brushes and switch assembly. A 1" paint brush with one-third of the bristles cut off to stiffen it, tooth brush, small bottle brush, pipe cleaners, and small plastic wash bottle obtainable from a scientific supply house, are useful items.

The outside of the main housing is cleaned by brushing with the paint brush moistened with solvent; avoid getting cleaning solvent on the windings. Grease or oil on the field coils or armature windings should be removed with a rag moistened with carbon tetrachloride. *Caution:* Carbon tetrachloride is highly toxic; use small amounts and avoid prolonged breathing of the fumes.

The commutator should be checked for grooves and pits and, if the brushes have worn the commutator down below its original diameter, it should be turned and have the mica undercut. This may be accomplished if one has a small metal turning lathe available. However, any reliable electric motor repair shop will do this job and check the armature windings for open or shorted turns, at a small cost. If the commutator is merely scratched and dirty it should be sanded to a high polish with fine sandpaper. Do not use emery cloth as the abrasive in emery cloth breaks down slowly and embeds in the commutator bars, causing rapid wear of the brushes.

If the brushes are shorter than ¼" they should be replaced. The new brushes should be shaped to fit the commutator by sanding against a round dowel covered with fine sandpaper, the diameter of this dowel with the sandpaper being the same as the commutator.

To make the job of re-assembly easier and to avoid mistakes, lay out parts in the order in which they are to be replaced.

8. Reassemble the drill, filling the gear housing two-thirds full of ball bearing grease.

When installing the cord be sure to fasten the third or ground wire to the frame.

With the drill motor and gear housing completely assembled and the drill running, check the brushes (where they contact the commutator) for excessive sparking. If new brushes were installed, the sparking should become almost invisible as the brushes wear in.

9. To remove the sleeve and jaws from the Jacobs chuck for servicing, force outer sleeve toward the jaw end of the chuck by first extending the jaws ⅛", place small ring against tapered section of chuck body and with a large ring against the back edge of the sleeve apply pressure with a vise, large C clamp or arbor press. With the split nut and jaws removed, examine the clamping surface of the jaws to see if they are tapered or marred with nicks or burrs; if the jaws are damaged they should be replaced. You may purchase the jaws and nuts in a set, from any large hardware store. When ordering parts for the chuck, give the manufacturer's name, model number, and capacity (in this case, Jacobs, 7B 0-¼ cap). The body of the chuck is polished by mounting it on the drill and using fine emery cloth and oil.

10. To re-assemble the chuck, lightly grease the threads and nut groove, then place the jaws in their corresponding holes in the chuck body. If the jaws are not numbered, place all three jaws in the chuck body and flush with the end, place one-half of the nut over two jaws and push into the groove. If the nut will not go down into the grove without moving one of the jaws, exchange any two jaws and they will fit properly.

11. Advance the jaws ⅛", replace sleeve by placing large ring on front and small ring against the back, and press on.

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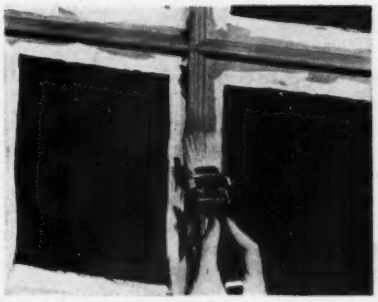

2: Now you're ready to paint the wooden cross members and frame. The wood is exposed; the glass is protected. All the excess paint slops onto the protective film.

3: After the second coat dries, use a sharp putty knife or razor blade to score tape along the line where glass meets wood. Be sure to score thoroughly, especially at the corners.

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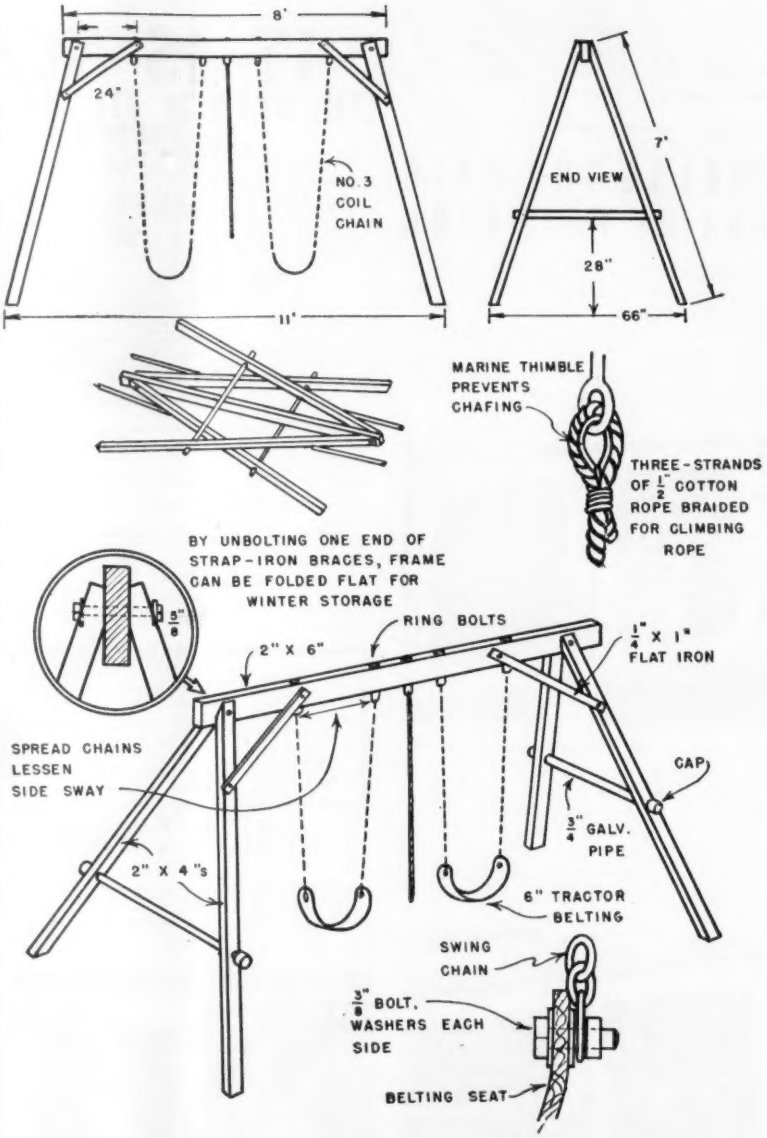
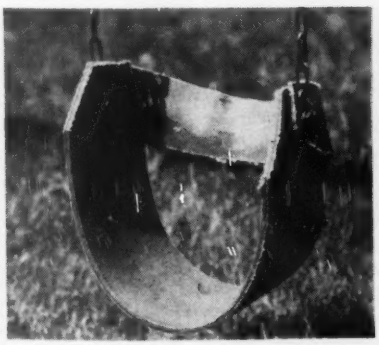


BACKYARD GYM

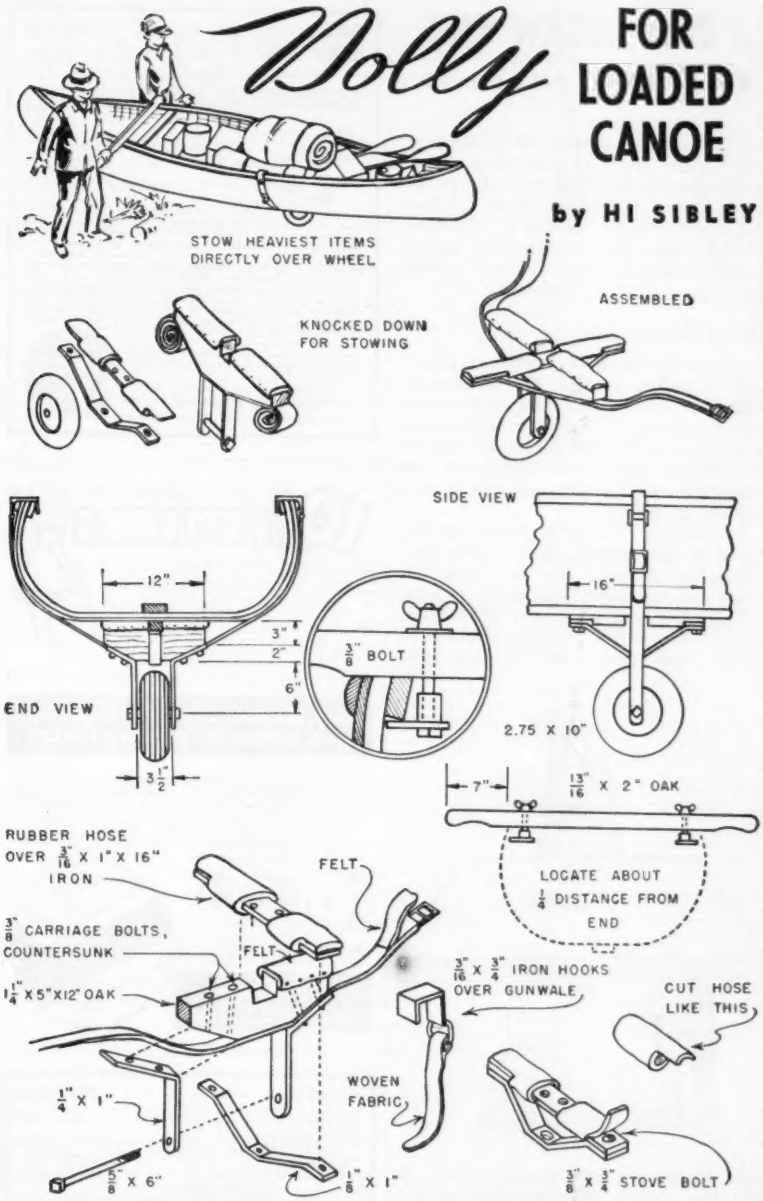
By HI SIBLEY

ALL you need to build this unit are a brace and bit, hand drill, and saw. Hardware can be purchased at any hardware store, and pieces of belting picked up on a nearby farm. This type of swing seat is not only more comfortable than a board, but will not do serious harm if a child is conked in the head. Use only cotton for the climbing rope; hemp is all slivers. "Give us a push, Mom!"



Dolly FOR LOADED CANOE

by HI SIBLEY



YOUR full camping equipment can be trundled over the portage with a minimum of effort with this sturdy dolly, by stowing the heaviest items directly over the wheel and disposing others for balance. A rubber-covered bar under the keel will not slip when the straps to the gunwale are drawn snug. Felt on the oak member prevents chafing the bottom of the canoe. It's as simple as it looks.

The oak handle-bar is secured to the gunwales with short iron plates drawn up by wing-nuts, as in the circle. The dolly unit can be knocked down to three parts, in addition to the wheel, for stowing relatively flat. The wheel can be obtained from a mail order house for about $4.50; it has ball bearings for a 5/8" axle.

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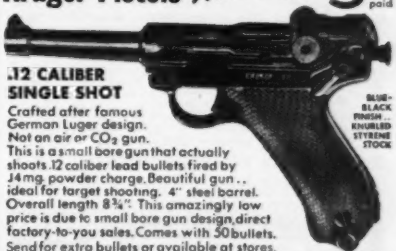

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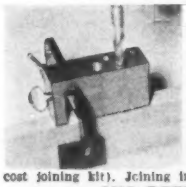

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A FEW JIGSAW TIPS

By F. OTIS PHAGANS

If you own a jigsaw, you'll need no introduction as to its versatility. It's a great machine; on it you can cut a passably straight line, outside curve cuts, inside curve cuts—in wood of ¾" thickness or less. Some jigsaws are even rugged enough to work dressed 2" lumber which generally is 1⅝" in thickness.

Things to look for

Anyone planning to purchase a jigsaw will do well to consider several factors: First, the size. This is the distance in inches horizontally from the blade to the over arm, commonly called the throat. The larger the throat clearance, the larger the size of work which can be performed on it.

Second, the material of which the machine is constructed. Best quality machines are of gray cast iron with the inner cam mechanism and shafts of steel.

Third, the type of chuck or blade holder. The best chuck is of the clamp type, which allows you to use any blade suitable for the material being worked. If you are unable to obtain the correct length blade, this kind of chuck lets you get a longer length and break it to correct length.

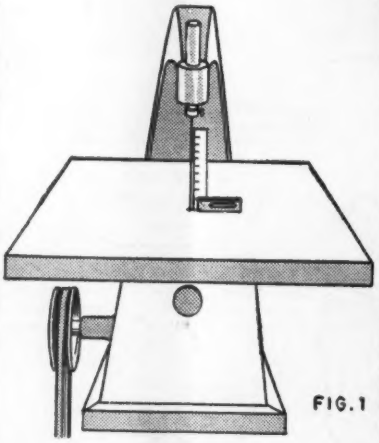

FIG. 1

Watch the oil

Use only the best quality motor oil for lubrication, of the density recommended by the manufacturer. Be sure to keep the oil reservoir at the proper level; check it frequently. If you allow the oil to run low you will hasten undue wear and damage. The V-belt drive should be neither too tight nor too loose—just tight enough so that the belt will not slip or vibrate between the pulleys.

After the jigsaw is mounted on the table or bench, check the table alignment with the blade as shown in Fig. 1. Then set the degree of tilt pointer on zero. Next, check the table level right to left and front to back with a spirit level and, by using shims (cardboard will do) under either side or front and back, level the cutting table in both directions.

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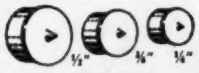

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The above, and the following instructions regarding the blade, will make a world of difference in the quality of work you will be able to turn out with practice.

Now proceed as in Fig. 2, and, with the blade at the top of the stroke, place a square or ruler or other object lightly against the blade. Turn the jigsaw pulley by hand and observe whether the blade recedes from the square or pushes it to one side. Make what adjustments are necessary so that the blade's up and down stroke will be perfectly straight and without any tendency to travel sidewise on the cutting stroke.

Now take a look at Fig. 3. Check your blade in the same manner, until it runs perfectly straight up and down.

Should a faster cutting stroke be needed, move the blade slightly forward in the upper chuck or slightly back in

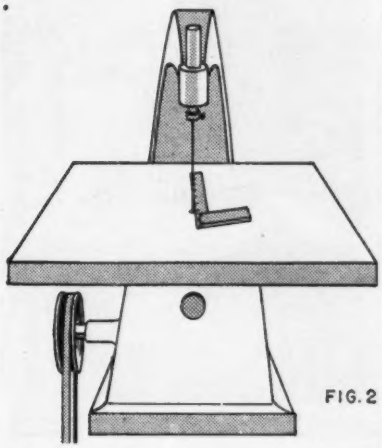

FIG. 2

Ruler or similar object may be substituted for square.

the lower chuck until the blade has a slight forward motion on the down stroke. This will give you a 25% or 30% faster cutting speed, which is desirable where there is much jigsawing to be done. However, where the work of necessity must be extremely accurate, there should be no forward motion of the blade on the down stroke.

If you will observe and practice these

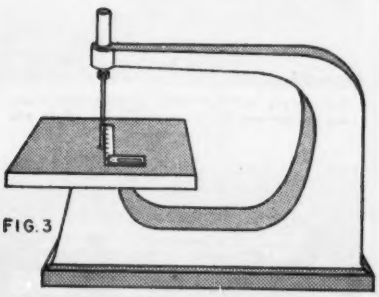

FIG. 3

Ruler or similar object may be substituted for square

several simple jigsaw procedures you will find yourself doing increasingly better work on this very versatile piece of workshop equipment.

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(*Continued from page* 271)
Such a job is shown in one of the illustrations.

If routing is to be done on a perfectly round disc, cut a 45° Vee in a piece of ¾" plywood and clamp it to the table; work the disc around inside the Vee for routing.

You can do many things with a set of routing bits. The set includes dovetailing bits. (Many craftsmen like this method. However, we like the saw better for this work). Dove-tail bits are convex-ground on the end, and all sorts of rosettes and assorted designs may be performed with them. See illustration.

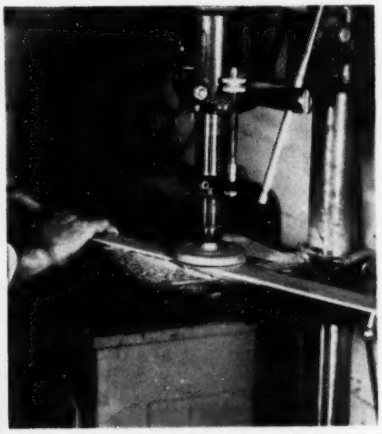
Wood carving may be done with the carving bits that come with the set. These are excellent for rounding the corners on small work, and for cutting valleys and insets as shown in the drawing. Single and multiple fluting and beading for decorating are other operations that may be done with router bits.

I find the rotary planer an excellent piece of equipment also. This little tool may be set in the chuck and used for surface planing and for recessed or raised paneling in small work. See illustrations.

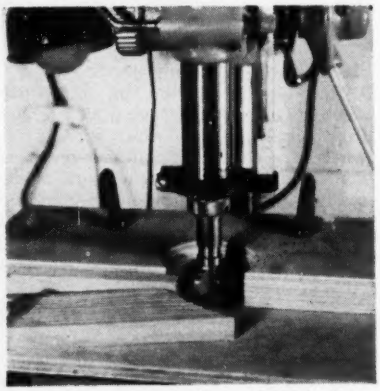
Drum or spindle sanders may be set in the chuck, or they may be fitted with an adaptor. You'll find them especially adaptable to inside and curved sanding. A broad range of sizes is available.

The 4" disc sander is an excellent accessory where really fine work counts.

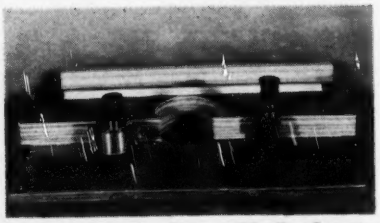
Cutting a mortise in a table leg. The complete mortise set includes fence and hold down.



The drill press disc sander is an ideal shop tool. Here it is shown effecting a "T" square.



Drill press set up with a standard shaping cutter and home made fence. Note the feather board.



Our home made fence, with the Barron shaper cutter and a standard cutter. Two pieces of finished molding are shown in the background.

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New Sawing Ease — Exceptionally light (only 18 lbs.) — can be operated in any position on the ground or in a tree. Saw *pulls* itself into the wood. You can saw much longer — with less effort, less fatigue.

New Versatility — cuts everything from saplings to 28" trees. Use it for undercutting, bucking, flush cutting, notching, felling, limbing, topping.

New Safety — Specially designed log-gripping teeth grip firmly — prevent saw's bucking or jumping — eliminate pull to left or right.

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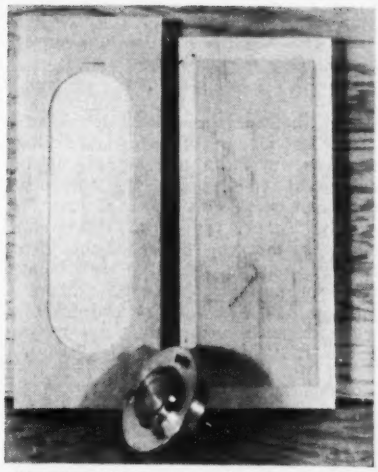
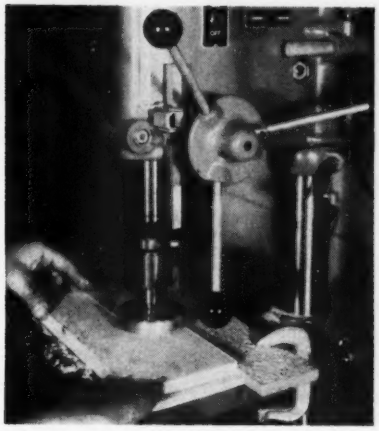
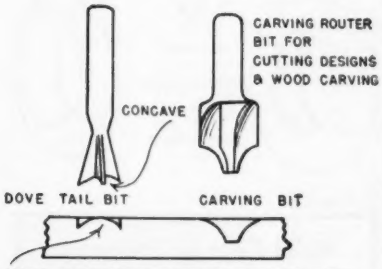


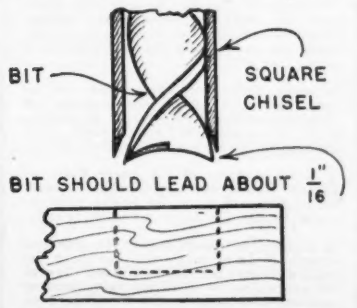
Two decorative panels made with a rotary planer. Planer is shown in the foreground.



A strip of 3" board is clamped to the drill press table as a guide when using a rotary planer.



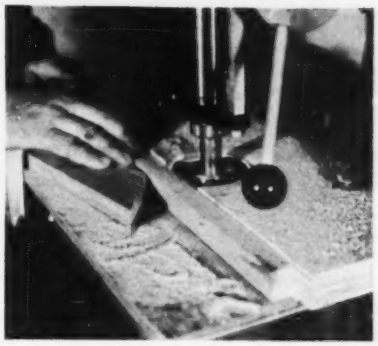
MAKE DECORATIVE ROSETTE DESIGNS WITH THESE CUTTERS. (SEE PHOTO)



HOW MORTISE IS CUT ON DRILL PRESS.

It is particularly effective for equalizing the thickness of small wood parts. Recently we made a "T" square, the tongue of which was to be 3/16" thick by 37" long, from maple. We surfaced one side, then the other (as shown in one of the photographs), and results were perfect.

We use the bolt adapter mentioned above for scratch brushing and buffing. A small ½" thick felt buffing wheel provides the best means for buffing small metal parts on the drill press. Internal grinding also may be done, using the small mounted emery wheels. It is a simple matter with these to grind out or enlarge holes drilled in metal. Not long ago we enlarged the arbor hole in a 6" circular saw from ½" to ⅝" on the drill press. Very satisfactory job.



Drill press set up with the Barron shaper and our own fence. Note the featherboard holding work against the fence.

LOOK AT THIS LOW PRICE!

Sanding surface 7" x 3⅞"

Consider these PLUS advantages: Will not stall . . . Sealed precision bearings . . . Easy on hand operations . . . Cast from high strength aluminum alloy . . . Use press-on adhesive paper with high cutting capacity . . . Operates AC or DC . . . Hand control switch . . . Extra long heavy duty extension cord . . . Quiet operation . . . Famous Bodine motor.

By far—your best buy in high performance sanders

BEFORE YOU BUY any sander you owe it to yourself and your pocketbook to consider the SANDRITE, finest orbital sander at any price. Head and shoulders above the field . . . in every sense a precision built power tool . . . a production machine that will make sanding a pleasure for the workshopper and do-it-yourself home owner, as well as the professional.

Proven in industry for the last 3 years, and recommended by one of largest abrasive manufacturers who also tested this sander and who knows what it can do. Being a production machine, it will not stall under heavy work loads, nor vibrate excessively. Light weight—only 6¾ lb.—means freedom from arm weariness. World-famous Bodine motor (1/12 hp) equipped with oiled-for-life precision bearings. You will find it quiet, fast, smooth—on wood, metal, plastics, wallboard and plaster.

You will appreciate SANDRITE'S combination clamp and carborundum process of sandpaper adhesion. A time and patience saver; use the clamp on fine paper for finishing; use the rough abrasives which adhere to the base *without the clamp* for heavy jobs like removing paint and varnish. SANDRITE lets you do *both.* That alone is "worth its weight in gold." Also an excellent polisher for car, furniture, all purposes, with ½" wool polishing pad ($2 extra).

Sold on money-back guarantee . . . tested and proved in industry . . . a BIG sander for big and little jobs . . . real money-saving price. FREE! Order now and receive full size can of Carborundum Reactivator for adhesive pad—at no extra cost. Keeps adhesive pad fresh; use it over and over.

☐ I enclose $29.75. Send SANDRITE sander and can of Carborundum Reactivator postpaid. ☐ I enclose $10.00 deposit and will pay postman balance plus C.O.D. charges. If sander is not satisfactory I have privilege of returning for full value.

SKOLD ENGINEERING CO., Dept. HHO
1911 Irving Park, Chicago 13, Ill.

NAME _____

ADDRESS _____

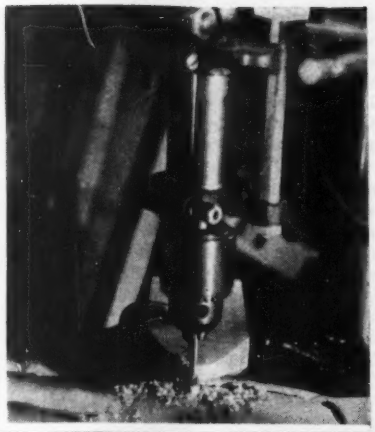
CITY _____

STATE _____

A standard mortising set comes complete with bits, square chisels, fence, and hold-down. When you set up the bit and chisel, the bit should lead the square chisel by about 1/16". This removes the wood just ahead so that the chisel can cut away the corners—and produce a square hole. A little practice will make you an expert with this attachment.

A drill vise and a Vee block are almost a "must," so many irregular pieces in wood and metal must be drilled. The vise provides a jig in which to hold them. For drilling holes in the center of the side of a round bar of either wood or metal, the Vee block is the only answer unless a jig is used.

The vise also provides a clamp for boards that must be drilled edgewise, parallel with the sides, and for drilling straight holes in the ends of dowels, etc.



Routing out a curved channel. Notice how round end stop holds work firmly at the point of routing. The stop is clamped to the drill press table.

And last, all sorts of boring and drilling at almost any angle, may be done on the drill press. For most of the operations described, operate the drill at around 5000 rpm, with the exception of drilling hard metal. In this case, the speed should be reduced considerably. Keep drills sharp at all times, and never try to do a boring job with a bit with a screw head. Use bits made for machine boring.

Shavings from the WIZARD'S WORKSHOP

by the Weldwood Wizards with Wood

WHAT'S YOUR "SHAVING?"

Want your short cut or shop trick printed? Send it to United States Plywood Corp., Box 106 N.Y. 36, N.Y. If used, we'll send you a one year subscription to this magazine. All entries become our property. None can be returned. Keep 'em short—35 words or less.

CAN'T GET AROUND?

A handy large-radius compass is made with a strip of wire screen cloth. Use a glass headed push pin for the center; a pencil or awl for marking or scribing the circle.

A NATURAL FOR WOOD!

Here's an easy way to get that costly hand rubbed look when you want a natural finish on wood. For a wizard job use Satinlac! Works fine on any wood—hard, soft, solid or ply. Protects and preserves the surface. Never looks "built-up"; never turns yellow or darkens with age.

PIN UP

Instead of plugging screw holes, try using brass countersink screws. Make countersink shallow, so that screw slot is above wood surface. Screw work tightly (best to glue it, too) then file off head of screw flush with wood. Looks like a decorative brass pin.

HOW TO GLUE JOINTS TO STAY

You need never worry about a joint glued up with Weldwood Plastic Resin Glue. It makes a bond stronger than the wood itself. And it gets stronger as it ages. Always in perfect condition when you want to use it, because you mix it yourself from the powder, in a few seconds. Stain free, rot-proof, highly water resistant, inexpensive. America's largest selling wood glue.

QUICK CLEAN HANDS

A dab of cotton soaked with ordinary finger-nail polish remover works fine to take paint, varnish, etc., off your skin.

PREFER BLONDES?

You can get those rich "woodsy" blond or pickled effects by using White Firzite on any wood: hard, soft, ply or solid. Or for pastel tones, tint White Firzite with colors-in-oil. It gives an easy, amazingly beautiful finish!

PAINTER'S SECRET

Just brush Clear Firzite on plywood to prevent "wild" grain. It's also a wonderful undercoater on any paint or enamel jobs.

®TRADEMARK

WELDWOOD®

Plastic Resin Glue — Makes a bond stronger than wood itself. Highly water resistant.

FIRZITE®

White for pickled or blond effects. *Clear* tames wild grain on stain jobs.

SATINLAC®

For exquisite natural wood finish. Enhances natural grain; preserves the surface.

At hardware, paint, lumber dealers.

United States Plywood Corporation
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New York 36, N. Y.

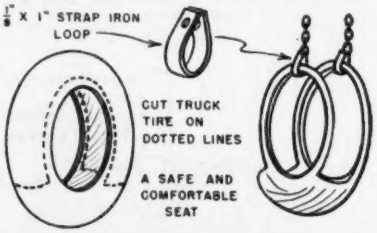
Send me free leaflets on Weldwood Plastic Resin Glue, Firzite and Satinlac.

NAME_____

ADDRESS_____

SWING SEAT FROM TRUCK TIRE

Your child won't fall out of this seat no matter how high he swings, and if he gets bumped by it when standing on the ground it will not inflict any cuts or serious bruises. Cut away the parts shown by the dotted lines and suspend the beads in flat-iron loops to which the chains are attached.



Metal Facts for Craftsmen

★ *Aluminum-magnesium alloys machine with a smooth, shiny surface, turnings are loosely wound. Aluminum-copper and aluminum-zinc machine to somewhat duller surfaces, chips are more tightly wound. Aluminum-silicon parts have dull surfaces, chips are rough with the appearance of being torn off.*

★ *When nails were hammered out by hand they never were thrown away but straightened for further use. At Exeter, N. H., in one case, 901 nails actually were counted for inventory of a person's estate.*

★ *Chief weapon of the early Celts of Europe was a huge hard-copper sword. These big men of great bodily strength could handle the large weapons readily.*

★ *Copper, for years one of the standard metals of dairy industries, has been replaced largely by stainless steel. Ten or 15 years ago 90% of all dairy contact surfaces were copper, with or without a tin coating. Today more than that proportion is stainless steel.—Morris A. Hall*

HOME OWNERS' *Shopping Column*

Do-It-Yourself Combination Window

The Duo-Matic comes delivered with the inserts fully assembled and with a master frame. By following directions included in each package, the Duo-Matic window can be installed by anyone handy with tools. Features three-track self-storing design. Made entirely of aluminum. Retails for $15.95 for sizes up to and including house window opening sizes of 29" x 55" double hung windows. Made by The Weather-Proof Co., Cleveland, Ohio.

Saves Metal Surfaces Already Rusted

Rust-Oleum may be applied directly over a sound rusted surface. Available in many colors. Resists salt water, salt air, heat, fumes, sun, rain, snow, and weathering. The home owner's answer to the costly rust problem around the home. Available in aluminum, white, blue, yellow, black, gray, red, brown, orange and others. Rust-Oleum Corp., 2799 Oakton Street, Evanston, Ill.

King Size Sliding Closet Door

Provides floor-to-ceiling storage space and makes closet shelves more accessible. Eliminates need for a partial wall, which is necessary above conventional size doors. Has the same advantage of saving "door-swing" space that the standard length sliding closet unit has and, in addition, makes every section of the closet easily available from the outside. A screw driver is the only tool required to install the unit. American Welding & Mfg. Co., Warren, Ohio.

Water-Repellant Paint

Separate plugs, primers, sealers or mortars no longer are required when you decorate foundations, basement walls, barbecue pits and other concrete structures. Aqua-Dry water repellant paint is formulated so it can be used in varying mixtures for all parts of the job. You use part as white and the balance tinted to blue, rose, green, grey or buff. Ten pounds does 300 sq. ft. $3.95 prepaid. State color desired. Rex Chemical Products, 5511 W. North Ave., Chicago, Ill.

Booklet on Garden Lighting

A new 48-page illustrated booklet called "Garden Lighting" has been issued for home owners. Explains why night-lighting of the garden should not attempt to duplicate daylight. Included is a do-it-yourself section with suggestions for constructing homemade housings, as well as a guide to ready-made lighting equipment. The booklet, which sells for $1, may be obtained by writing the Residential Lighting Dept., Westinghouse Lamp Div., Bloomfield, N.J.

Rubber Tile Flooring

A complete start-to-finish guide to installing a rubber tile floor is available in a new folder being offered free of charge. Includes chart on which to diagram the room and lay out the floor pattern, instructions on preparing the sub-floor, installing the rubber tile, maintaining the finished floor. Write to Rubber Flooring Div., Dept. HHO, The Rubber Manufacturers Assn., Inc., 444 Madison Avenue, New York 22, N. Y.

Plastic Wood is stronger—resists weather. Sands down to a smooth, hard finish. Professional craftsmen have preferred Plastic Wood for more than 50 years because it takes paint, varnish and other finishes best. Will not chip, crack or peel . . . won't pull away! In cans and tubes.

In Natural and 8 wood colors!

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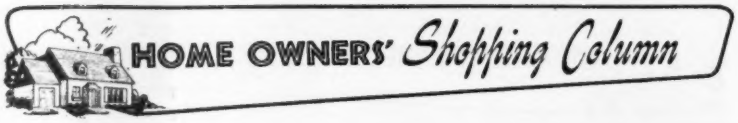
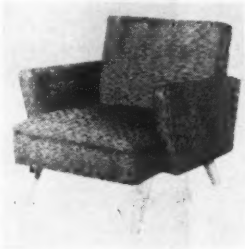
MOORE MANUFACTURING CO.



Packaged Fireplace

The Air-Jet packaged fireplace is a self-contained unit. Features auxiliary heating circuit which insulates as well as doubles the heat output. Designed for zero clearance, on all sides, from combustible materials. Offers attractive black enamel front that harmonizes with modern home interiors as well as period decoration. 30" firebox is constructed of heavy steel. General Products Co., Inc., Dept. HHO, Fredericksburg 54, Va.

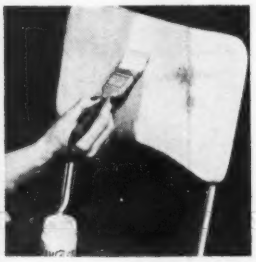


Do-It-Yourself Furniture Kit

A hammer, screw driver, scissors are the only tools needed to assemble upholstered chairs using the new "pre-fab" kit. Everything furnished: frame, springs, padding and fabric cover, tacks, staples and glue. Arm chairs sell for $33.50; armless model, $28.75. 3-piece sectional set costs $88.50. New Trends Furniture Co., 737 Robertson, Wauwatosa, Wis.

Bulb Kills Insects

The Genie Insect Bulb assures complete protection from flies, bugs, mosquitoes, gnats and other small flying insects. Rids any room in home, office, store, factory, barn, restroom, warehouse, of flying pests. Protects food, clothing. Just place upright in any lamp socket. Works within seconds. Price $2.98 with supply of 12 pellets. Volume Sales Outlet, 1209 Oregon Ave., Philadelphia 48, Pa.

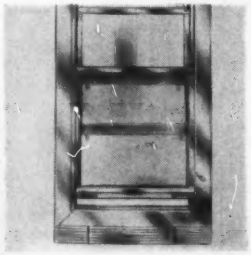


Lacquer-Base Re-Finish Paint

Ramcote will recolor the leatherette seats and backs on dinette and kitchen chairs, card table sets, leather easy chairs, bar stools, breakfast booths, car upholstery, etc. Easily applied with a paint brush; dries quickly. Fadeproof, washable, resists mildew, guaranteed not to crack or peel. Twelve colors; $2.60 pint, $4.60 quart. Wayne Products Co., 2757 Hawthorne St., Franklin Park, Ill.

Pre-Fab Door Frame; Pre-Hung Door

Any home owner can install it in ten minutes with a screwdriver. Dor-Pak consists of a cold rolled steel, welded two-piece frame and a birch or Masonite, flush-panel hollow door. The door, complete with all hardware, is pre-hung at the factory to one-half of the door frame. Door and frame are painted in a satin finish offwhite enamel. Comes in five widths; adjustable for any wall thickness. Lott Mfg. Co., Jamestown, N. Y.



3-Track Combination Window

Tracks that move back to allow inserts to clear easily and quickly are featured in the Weathertrol all-aluminum storm-screen window which Pre-Fab Aluminum Products, 60 E. 42 St., New York City, now is marketing. The retractable tracks are worked from the inside. The homeowner merely gives a controlling knob a half-twist; the tracks instantly move back to let the inserts clear. All parts, completely finished, together with 16 screws, are shipped in a specially-designed box.

(*Continued from page* 295)
into hollow squares over the entire panel. This preparation must be well done or the other two steps will be difficult and the finished work unsatisfactory. See Sketch No. 2.

Beginning at hole No. 1, connect to hole "A", connect hole "D" to 4 over and under as shown, 5 to "E", "H" to 8, 9 to "X", "X" to 12, "N" to 2, 3 to "N", "B" to 6, 7 to "C", "F" to 10 and 11 to "G". Perform this operation by keeping one hand above the frame and the other below. There is a right way and a wrong way to place these strands. The drawing shows the right way. The wrong way will be apparent because the strands will bind at the corners. Step No. 6—the second diagonal strands, see Sketches 2 and 3. As in step 5, two diagonals are always run into the four corner holes.

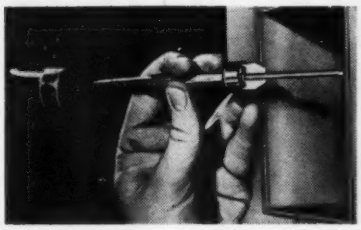
Be sure the weave is run over or under the right strands. The ideal panel is shown in Sketch 3. Connect 12 to "B", "C" to 9, 8 to "F", "G" to 5, 4 to "Y", "Y" to 1, "M" to 11, 10 to "M", "A" to 7, 6 to "D", "E" to 3 and 2 to "H". The paneling is now complete. You may add a binder if you desire, though it adds neither beauty nor service to the panel or seat. The method of application is shown in Sketch 4.

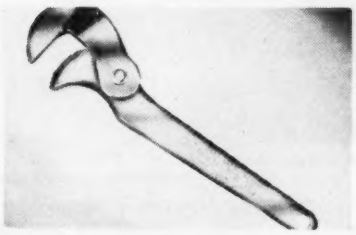
THESE ITEMS ARE MAN'S STUFF

Really Hits the Nail on the Head

"Nu-Nailer" they call it. As clever and necessary as anything I've seen. Saves fingers and tempers when nailing in close quarters. Holds all kinds of nails, including roofing and finishing nails. Reverse it and use as a punch or nail set. Made of steel, plated; will take a harder beating than you can give it. From now on, wherever my hammer goes so goes my Nu-Nailer! The manufacturer was telling me how doctors, musicians, and people like that use the Nu-Nailer as "insurance" for their precious fingers. That's not a bad idea for you too.

Just $1.00

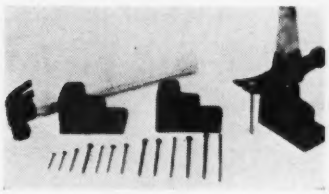




Simple Tool of a Thousand Uses

Most workshoppers have more wrenches than they'll ever need. I do. But when I came across this new Ply Wrench I said, "That's for me!" I like it because I can get into places with it that I usually skin my knuckles on when I use a regular wrench. It has a terrific gripping power and a three-sided pull. Automatically adjusts to any size from 1/8" to 1 1/8". Measures 7" overall. I use it now more than I do any of the regular wrenches which cost me three times as much, because it's so much faster and easier.

Worth more than its $1.29



Swell Gimick for Pulling Nails Straight

I sure like this Handi-Pul for pulling nails (up to 10d) out of old boards. Not only does it save nails—which is good economy—by pulling them straight, but it saves *me*. And that's still better! I keep mine on a shelf right by my hammers, and I reach for my Handi-Pul automatically now when I go for a hammer. Wouldn't be without it. Incidentally, notice how the Handi-Pul is "stepped"—to handle different length nails? It's rugged as all get-out too; will stand plenty of abuse.

You can't go wrong for only $1.00

Adjustable Angle Jig for Circular Table Saws

Every table saw owner *needs* one or more of these Adjustable Angle Jigs. It is indispensable for making accurate angle cuts. This valuable accessory is set to cut any angle from 1 to 22 degrees—or 0" to 4". No clamps or bolts to fasten. Glides along the table fence, carrying the wood with it. Will cut a true, precise taper. Also will taper 1, 2, 3 or 4 sides. Always ready for use; will last a life-time. Made of hard maple with cadmium-coated steel rust-proof clamps.

Priced surprisingly low at $2.95

FREE

Made another good buy on how-to books in the workshop and homecraft fields. Figured I'd give you one FREE with purchase of $4.00 or more to prove you can't beat Bell Sales for values.

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You will ship these postpaid and will send FREE book if I enclose $4 or more.

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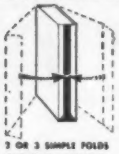

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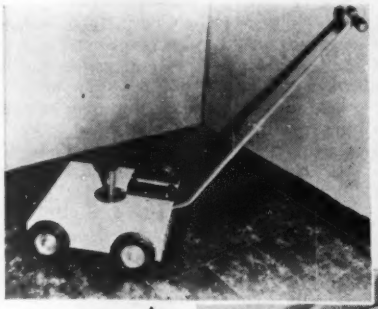
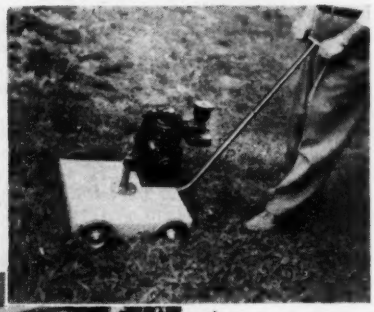


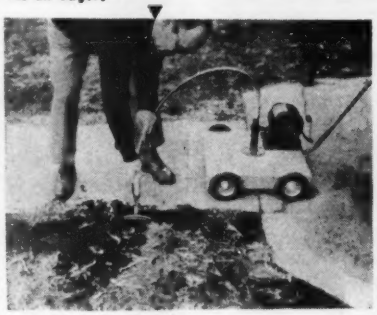
The Shopmowbile without motor or attachments.



As a lawn mower with gasoline engine.

As a lawn mower with electric motor.

As an edger.



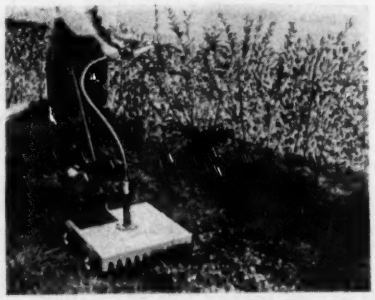
Polishing an automobile.

CRAZY LIKE A FOX

The designer of this one must have lain awake nights

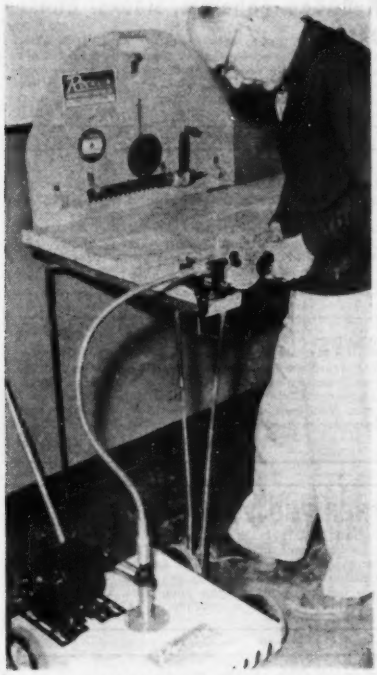
WHAT is it—a lawn mower? Sander? Grinder? Drill? Router? Buffer? Saw? Sharpener? Edger? Hedge cutter? "Yes" is the answer to them all, and more. The Shopmowbile is one of the most unusual new developments for the do-it-yourselfer we've seen in quite a spell.

In the main, it resembles an electric lawn mower. However, its powerplant also is flexible; the unit will accommodate a gasoline engine as readily as it does an electric motor. The mower operates with an 18" offset rotary blade which rides up under the platform shield for extra safety. The semi-pneumatic puncture proof wheels are adjustable to three

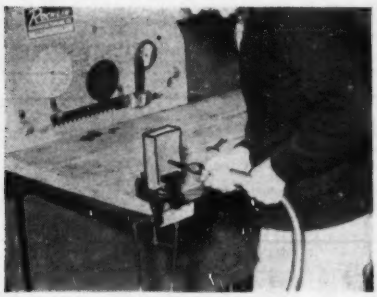


Trimming hedges.

Trimming shrubbery.



As a buffer.



As a drill.

cutting heights from 1½" to 2¾".

Actually the Shopmowbile is a kit for home assembly and is sold minus the motor or engine, and belt. It does come equipped with an adjustable motor base to accommodate either kind of power unit.

It is the flexible shaft attachment which makes the Shopmowbile such a versatile piece of equipment. This flexible shaft may be operated at varying speeds by changing the pulley size on the motor. It has a connection for a chuck which drives a hedge trimmer and other similar attachments for cutting shrubs, etc. This same chuck accommodates an edging unit as illustrated in one of the accompanying photographs.

Car polishing is one of its functions, as well as a number of workshop activities. For example, by clamping the flexible shaft in a vise, the Shopmowbile becomes a unit for mounting a miscellany of different tool heads. The illustrations show how readily it can be adapted to sanding, grinding, drilling, buffing, etc. Other attachments make it useful as a jig saw, cut off saw, table mounted grinder and sander. The full horsepower capacity of its motor gives it more actual working power than some conventional stationary workshop tools.

It has the added advantage of being mobile, which permits the tool to be brought to the job—frequently a more convenient operation than bringing the job to the tool.

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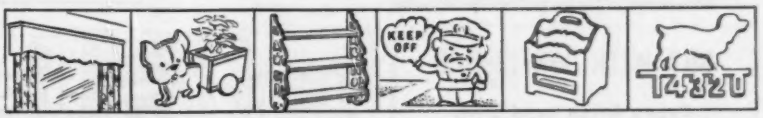

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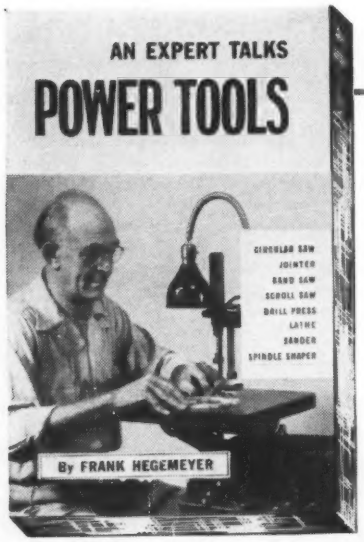

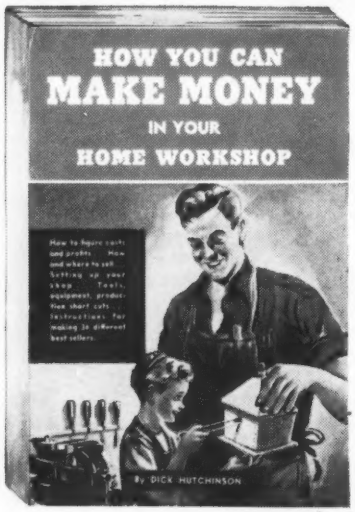

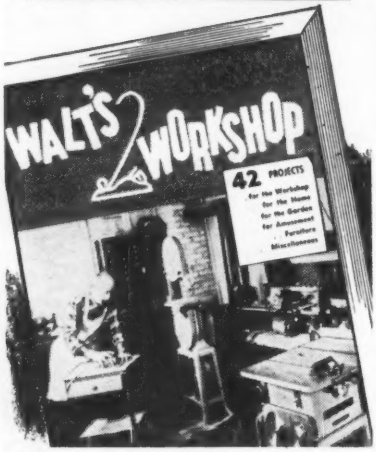

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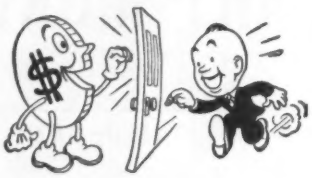

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PATTERNS, OVER 800 different projects for woodworkers. 1954 catalog 25c. Walters Hobby Shop, Dept. PP, 207 French Road, Utica 4, N.Y.

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INVENTORS: WHEN you are satisfied that you have invented something of value write me, without obligation, for information as to what steps you should take to secure a patent. Write Patrick D. Beavers, Registered Patent Atty., 1080 Columbian Bldg., Washington 1, D.C.

INVENTORS: SEND for free patent information book and inventor's record. Registered Patent Attorney, Associate Examiner, Patent Office 1922-29; Patent Attorney & Advisor, Navy Department 1930-47. Gustave Miller, 54HO Warner Building, Washington 4, D.C.

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HARDWOOD SQUARES ¾" x ¾" x 4 foot, also smaller sizes and lengths. Shop leftovers sold reasonable. Armand A. Berard Co., 312 Maple St., Winchendon, Mass.

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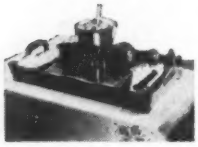
SUMMER SPECIAL!

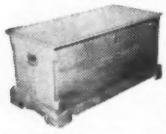
ALL FIVE FULL SIZE PLANS ONLY $2.00



Colonial Beverage and Snack Server

A Colonial tray of traditional design but with a modern twist—featuring a take-out tray with receptacles for pitcher and six glasses. Also has compartments for silverware, snacks, etc. For full details see page 266 of this issue.

FULL SIZE PLAN No. SBS-5 . . . 50c



Colonial Dowry Chest

A traditional piece characteristic of Colonial furnishings. Its lines represent the best in design of the day. Serves many purposes besides being very decorative. Can be made of pine, birch, cherry, oak, fir, beech—any of the home grown woods. For complete description and additional illustrations see pages 332 and 333, July-August 1953 issue of this magazine.

FULL SIZE PLAN No. CDC-1 . . . 50c

Triple Decker Magazine Table

This three-tier magazine table, server, snack table, plant stand—table of many uses—favors the Colonial. Any convenient wood and finish will prove suitable. Its simple, sturdy construction makes it a popular furniture project. For additional illustrations and detailed description see page 26, September-October 1953 issue of this magazine.

FULL SIZE PLAN No. TDT-2 . . . 50c

Combination Smoking Stand & Magazine Rack

An original design. Ideal for living room or den. Maple or other hardwood of similar texture recommended. Complete description, with eight photographs and detail drawings, appear on pages 88 and 89 of the November-December 1953 issue of Homecraft & The Home Owner.

FULL SIZE PLAN No. SSM-4 . . . 50c

Reproduction of Early Milking Stool

Our forefathers used it in the milkshed. Now you will find it used as a TV seat, foot stool, plant stand, fireside bench—or any one of a possible half dozen other purposes. A furniture piece of pure charm as well as utility. For additional details and photos see page 144, of the January-February 1954 issue of this magazine.

FULL SIZE PLAN No. MS-3 . . . 50c

- ☐ All five plans at special price of $2.00.
- ☐ No. CDC-1, Colonial Dowry Chest—50c.
- ☐ No. TDT-2, Triple Decker Magazine Table—50c.
- ☐ No. MS-3, Early Milking Stool—50c.
- ☐ No. SSM-4, Combination Smoking Stand and Magazine Rack—50c
- ☐ No. SBS-5, Colonial Snack Server—50c.

I enclose $.....

Name.....

Address.....

City & Zone.....

State.....

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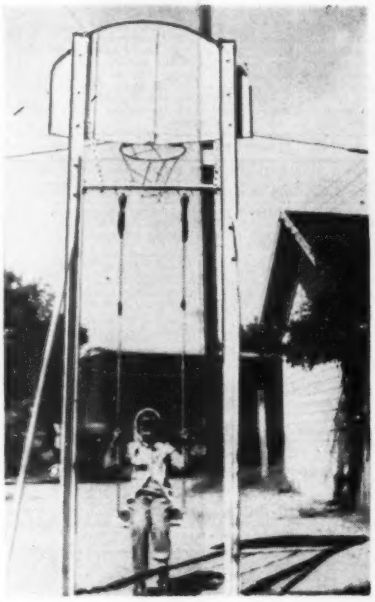
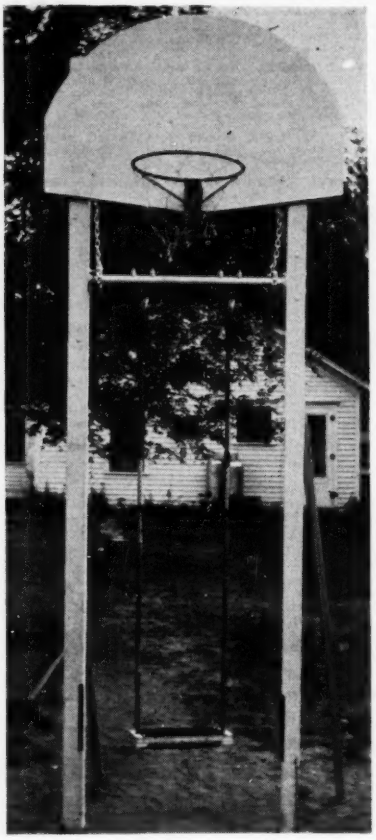
COMBINATION BASKETBALL STAND AND SWING

By MRS. S. M. KOEFOD





Our neighbors have a ten-year old boy and a girl of seven. The boy wanted a basketball stand, and the girl wanted a swing. So their male parent, a versatile chap who is handy with tools, conceived the idea of building a double stand with a swing suspended between the supporting 4x4s. The children cannot play basketball and swing at the same time, of course, but they take turns and enjoy both features. Here's how he did it: He bought four 1" boards, 8" wide and 4'8" long. These he bolted together with three 1" strips of wood, to make a backboard for the basket.

He bolted two 16' 4x4s to the backboard next to and outside the 1" strips, allowing a 3' space between the 4x4s for the swing. A 1¼" pipe, 3' long, was set in flanges and bolted to the 4x4s 1' below the backboard.

Two "U" bolts were set in two sets of holes drilled through the pipe 14" apart and bolted to the pipe. Two chains, each 18" long, were wrapped around the pipe and bolted to the inside of the 4x4s, to take some of the strain off the flanges.

Fourteen feet of ¾" rope was threaded through two holes bored through the seat. The rope ends then were threaded through the "U" bolts, over a rope thimble, so the rope cannot fray. Rope ends were wired to the rope and adhesive tape wound around the wire, so that the rope ends cannot splip or pull out. The seat is a reinforced 10" x 14" board, with rubber stair tread cemented to the seat.

A regulation basket was bolted to the front side of the backboard. The stand was raised and set in two holes 3' apart and 4' deep after the backboard had been shaped with a saw as pictured. Concrete was poured into the holes. The 4x4s were braced with two 8' long iron pipes. The 4x4s and braces were set in a slab of concrete 3' x 7', a little below ground level and covered with dirt.

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